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CONTENTS

OF THE

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MEDICO-CHIRURGICAL

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(AND

JOURNAL

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(NEW SERIES.)

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[1st of APRIL to 30th of SEPTEMBER,]

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VOL. VII. of DECENNIAL SERIES

EDITED

By JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING,

AND

HENRY JAMES JOHNSON, ESQ.

LECTURER ON ANATOMY AT THE SCHOOL OF ST. GEORGE'S HOSPITAL IN
KINNERTON STREET.

REPRODUCED

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CONTENTS

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No. LIII. JULY 1, 1837.

[BEING No. XIII. OF A DECENNIAL SERIES.]

REVIEWS

I.

RECENT PATHOLOGICAL INVESTIGATIONS.

1. Medico-Chirurgical Transactions. Volume the Twentieth	1
2. Guy's Hospital Reports, No. IV.	1
3. The Transactions of the Provincial Medical and Surgical Association, Vol. V. 1837	1
4. Outlines of Human Pathology. By HERBERT MAYO, F.R.S.	1
1. Affections of the Bones	
A. An Inquiry respecting the Process of Reparation after simple Fracture of Bones. By Mr. Bransby Cooper	3
B. Observations on some of the Forms of Atrophy of Bone. By T. Blizard Curling, Esq.	6
C. Observations on some Tumors of the Mouth and Jaws. By R. Liston, Esq.	10
2. On Inflammation, Chronic Disease, and Perforative Ulceration of the Cæcum, &c. By John Burne, M.D.	19
3. Affections of the Heart and Arteries.	
A. Remarkable Case of Varicose Aneurysm. By Mr. J. G. Perry	24
B. Remarks on two Forms of Atrophy of the Heart's Valves, &c. By Dr. Kingston	27
4. Affections of the Lungs, &c.	
A. Case of Diaphragmatic Hernia. By Dr. W. Norris	30
B. Dissection of a Case in which one Lung had been compressed by Fluid Effusion	31
C. On the Pathology of Pulmonary Tubercles. By Dr. Kingston	32
D. Observations on the Diagnosis of Pneumonia. By Dr. Addison	37
E. On Black Expectoration, and the Deposition of Black Matter in the Lungs. By Dr. William Thomson	41
5. Ovarian Tumour successfully removed. By Mr. Jeaffreson	47
6. Case of Tetanus successfully treated by Subcarbonate of Iron. By J. Hamerton, Esq.	48

II.

Elements of Medicine, Vol. I. On Morbid Poisons. By ROBERT WILLIAMS, M.D.	49
1. Typhoid Poison	49
2. On the Poison of Scarlatina	59
A. Scarlatina Gravior	61

III.

Lectures illustrative of certain local Nervous Affections. By Sir BENJAMIN C. BRODIE, Bart. F.R.S.	68
1. Pathology of Hysteria	69

VI.

- The Economy of Health, or the Stream of Human Life from the Cradle to the Grave,
&c. By J. JOHNSON, M.D. 79

V.

PHILOSOPHICAL ANATOMY.

- | | | |
|---|---|----|
| 1. Philosophie Anatomique. Par M. le Chev GEOFFROY SAINT HILAIRE . . . | } | 83 |
| 2. Histoire de Anomalies de l'Organization, &c. Par M. ISIDORE GEOFFROY ST. HILAIRE . . . | | |
| 3. Sketch of the Comparative Anatomy of the Nervous System, with Remarks on its Development in the Human Embryo. By JOHN ANDERSON, M.E.S. . . . | | |

VI.

CYCLOPÆDIE AND DICTIONARIES OF MEDICINE AND SURGERY.

- | | | | |
|--|---|-----|-----|
| 1. A Dictionary of Practical Medicine, &c. By JAMES COPLAND, M.D. . . . | } | 129 | |
| 2. The American Cyclopædia of Practical Medicine and Surgery, &c. Edited by ISAAC HAYES, M.D. . . . | | | |
| 3. The Cyclopædia of Practical Surgery, comprising a Series of Original Dissertations on Operative Medicine. Edited by W. COSTELLO, M.D. . . . | | | |
| A. Deafness from Affections of the External Ear | | | 130 |
| B. Deafness from Disease of the Eustachian Tube | | | 132 |
| C. Deafness from Affections of the Auditory Nerves | | 134 | |
| D. Deafness and Dumbness | | 136 | |
| E. Alimentary Concretions | | 138 | |

PERISCOPE.

BIBLIOGRAPHICAL NOTICES.

- | | |
|--|-----|
| 1. The British Flora Medica, or History of the Medicinal Plants of Great Britain. By B.H. Barton, F.L.S. | 145 |
| 2. Mr. Headland's Oration before the London Medical Society, 1837 | 150 |
| 3. A Treatise on the Prevention and Cure of Pulmonary Consumption. By R. Little, M.D. | 151 |
| 4. Philosophy of Living. | |
| 1. The Philosophy of Living. By Caleb Ticknor, M.D. | 152 |
| 2. The Philosophy of Living. By Herbert Mayo, F.R.S. | 152 |
| 5. The Works of John Hunter F.R.S., with Notes. By James F. Palmer, Esq. | 153 |
| 6. New Works on Anatomy and Physiology. | |
| 1. Cyclopædia of Anatomy and Physiology. Part X. | 154 |
| 2. Nouvelles Recherches sur la Structure de la Peau. Par M. Breschet | 155 |
| 3. Anatomie du Système Dentaire. Par Ph. Blandin, &c. | 155 |
| 4. Lecons d'Anatomie Comparée de George Cuvier | 155 |
| 5. Anatomie Descriptive. Par J. Cruveilhier | 155 |
| 7. Recent Anatomical Plates. | |
| 1. Quain's Plates | 156 |
| 2. Bourguery's Plates | 156 |
| 8. Recent Works on Diseases of the Skin. | |
| 1. A Practical Treatise on Diseases of the Skin, &c. By Samuel Plumbe, &c. | 156 |
| 2. A Practical Compendium of the Diseases of the Skin, &c. By Jonathan Green, M.D. | 158 |
| 9. An Address to the Worcestershire Natural History Society. By C. Hastings, M.D. | 158 |
| 10. An Examination of Phrenology. By T. Sewall, M.D. | 159 |

SPIRIT OF THE ENGLISH PERIODICALS, AND NOTICES OF ENGLISH MEDICAL LITERATURE.

- | | |
|---|-----|
| 1. Singular Case of Periodical Monomania. By James Johnson, M.D. | 161 |
| 2. Effects of Solitary Confinement on the Health of Soldiers in Hot Climates. By Mr. Malcolmson | 170 |
| 3. Nitrate of Silver in immense Doses | 172 |
| 4. On the Effects of Cold. By Sir Henry Hallford | 172 |
| 5. Retroversio Uteri | 173 |
| 6. Dr. Dewins on Colchicum | 174 |

7. Malignant Disease of the Stomach, with Remarkable Symptoms . . .	176
8. Sir Francis Smith on Creosote as an External Application . . .	177
9. Dr. Lendrick on the Use of the Nitro-muriatic Acid Bath . . .	179
10. Dr. Fingerhuth on Hypertrophy of the Mammary Gland . . .	179
11. Thoracic Inflammation masked . . .	181
12. Use of the Solid Nitrate of Silver for the Gonorrhœa of Women . . .	182
13. On the Condition of the Brain in Sleep, Epilepsy, &c. By Herbert Mayo . . .	183
14. Vital Statistics.	
1. Value of Life in Geneva	184
2. Abuses of Vital Statistics	185
15. The Bruit du Diable	186
16. Chemical Constituents of Calamine	187
17. Seven Half-crowns swallowed, and voided after 20 months . . .	187
18. Cough ending in Emphysema of the Body	188
19. Diabetes.	
1. On the Comparative State of Urea in the healthy and diseased Urine. By R. M'Gregor, Esq.	188
2. Case of Diabetes Mellitus. By Henry Snowden, Esq.	188
3. Mr. Leach on Lytta in Diabetes	190
20. The Northern Flora. By Alexander Murray, M.D.	190
21. Tic Douloureux relieved by Galvanism	190
22. Substance of a Statistical Report from the Morgue, 1836	191
23. Varieties of the Lobelia Inflata dependent on Soil	192
24. On Wounds of the Heart. By Mr. Lees	193
25. Transatlantic Snuff chewing	196
26. Medicine in India	196
27. Remarkable Case of Cephalœa	200

SPIRIT OF THE FOREIGN PERIODICALS, &c.

1. Biographical Sketch of the late Baron Dupuytren	201
2. Biographical Sketch of the late Baron Desgenettes	204
3. Inflammation of the Spinal Marrow—Alleged frequency of this Disease in Agues, &c.	206
4. Extracts from, and remarks on, M. Bouillaud's Clinique	209
a. Typhus Fever	209
b. Intermittent Fever and Neuralgia	209
5. Increase of Suicide in Paris, Poisoning from Colchicum, &c.	211
6. On Gastro-Malacia	213
7. Cursory Remarks on Hydrocephalus Acutus, with Cases	219
8. Cases of Croup actively and successfully treated	225
9. Peculiar Spasmodic Affection of the Thumb in Writing, &c.	226
10. Idiopathic Tetanus and Trismus connected with Ramollissement of the Spinal Cord, ...	227
11. Case of Spina Bifida. With Remarks	228
12. Imperforate Anus. Successful Formation of an Artificial Anus in the Right Groin, ...	230
13. Cases Illustrative of Puerperal Fever	230
14. Lamentable Case of difficult Parturition	234
15. Professor Nægele on difficult Parturition from Agglutination of the Os Uteri	235
16. Treatment of the Insane	238
17. Professor Lallemand on Spermatorrhea	239
18. On the Curative Properties of Chlorine, and of the Chloride of Lime	240

CLINICAL REVIEW, AND HOSPITAL REPORTS.

1. Hospital Medicine and Hospital Surgery	241
HULL GENERAL INFIRMARY.	
2. Report of some Cases by Mr. Henry Snowden	243
a. Softening of the Brain	243
b. Cases of Adhesion of the Pericardium	244
c. Tubercular Syphilis of the Legs	245
DONCASTER DEAF AND DUMB ASSOCIATION.	
3. Differences in the Power of acquiring the Language of Gesture in the Deaf and Dumb	245

HOSPITAL OF THE 2D DRAGOON GUARDS.	
4. Supposed Glanders in the Human Subject	246
NORTH LONDON HOSPITAL.	
5. Dislocation of the Carpus backwards	249
6. Guy's Hospital Reports, No. 4.	249
1. A Practical View of Lithotrixy. By Mr. Aston Key	250
a. Dangers of Lithotomy	254
b. Lithotrixy	258
2. Two Cases of Poisoning by Arsenious Acid. By Mr. A. S. Taylor	263
3. On the Safety-Valve of the Heart	265
4. Reparation of Fractured Bones	265
5. Cases and Observations on the Diagnosis of Tumors at the Base of the Brain	265
a. Tumors at the Basis Cranii	265
b. Lesions of the Spinal Cord	270
c. Lesions of the Brain	271
ROYAL NAVAL HOSPITAL PLYMOUTH.	
7. Case of Gastro-Enteritis, and Phlebitis Portalis. By Sir David Dickson	273
BIRMINGHAM EYE INFIRMARY.	
8. Report of the Cases attended by R. Middlemore, Esq.	276
1. Irritable Ophthalmia	276
2. Carcinomatous Growth from the Cornea and Sclerotica	276
3. Melanotic Growth from the Semi-lunar Membrane	277
4. Ossification of the Cornea	277
5. Circumscribed Vascular Prominence of the Cornea	277
6. Extensive Bulging of the Sclerotica	278
7. Disease resembling Malignant Affection of the Eye-ball	278
WORCESTER INFIRMARY.	
9. Report for the years 1835 and 1836	278
10. Clinical Facts and Observations	280
1. Opening a small Abscess	280
2. To prevent Scars in the Neck	280
3. How to open a large Abscess	281
4. How to open a deep Abscess in the Neck	281
5. Uncertainty of dividing the Stricture in Hernia, external to the Sac	281
6. Why the Recurrent Nerve is recurrent	282
7. Cause of the Inclusion of the Tendon of the Biceps in the Scapulo-humeral Capsule	282
8. Expense of Patients in the Royal Infirmary of Glasgow	282
9. Gouty Ramollissement of the Spinal Marrow	283
10. Reformation of Factory Morals	284
11. Successful Treatment of Lead-Colic	284
12. Treatment of Pleurodynia	285
13. Prevalence of Tape-Worm in Birmingham	285
MISCELLANIES.	
1. Irish Medical Charities' Bill	285
OBITUARY.	
1. General Bill of Mortality for London, from Dec. 1835, to Dec. 15, 1836	287
2. Death of Dr. Mower	287
3. Death of Professor Himly	288
4. Death of Dr. Cummin	288
5. Death of M. Dubois	288
6. Death of Mr. Vance	288
EXTRA-LIMITES.	
1. Mr. Annesley's Reply to the late Mr. Twining	289
2. London Missionary Society	290
3. General Registration of Diseases	291
4. Case of Empyema cured by Paracentesis. By Dr. Edward of Forfar	292
5. Principal Original Papers published in the Weekly and Monthly British Journals, between 25th March and 10th June, 1837	293
BIBLIOGRAPHICAL RECORD.	295

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APRIL 1, TO JULY 1, 1837.

RECENT PATHOLOGICAL INVESTIGATIONS.

- I. MEDICO-CHIRURGICAL TRANSACTIONS. Volume the Twentieth. London, 1837.
- II. GUY'S HOSPITAL REPORTS. No. IV. April, 1837.
- III. THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Volume V. 1837.
- IV. OUTLINES OF HUMAN PATHOLOGY. By HERBERT MAYO, F.R.S., &c. &c. &c. Parts I. and II.

IF it is a difficult, it is a pleasing and instructive task, to endeavour to diffuse through the medium of the periodical press, that sound and useful knowledge which is accumulating daily. There are some who affect to discover nothing but the progress of sciolism, in the seeming advances of our science. They point to the learning and the laborious study of the men of former days, and reproachfully compare the pigmies of these times, to the giants of those.

Such complaints argue an imperfect acquaintance with the principles that may be drawn from the history of man and of the human mind. In the earlier ages of civilization, the sphere of study is comparatively limited, and one intellect may comprehend all that is precisely known of any or of several sciences. In such ages, so great a deference will be paid to authority, that not to be conversant with what has been written, will be looked on as the worst of ignorance and of presumption; and opinions will be tested, not by their agreement with the facts which men have scarcely learned to value, but by their correspondence with the dogmas which have formed the canons of belief. In that condition of society erudition is deemed the only knowledge, learning almost the sole philosophy.

But when a mind, like that of Bacon's, has burst the scholastic swaddling that first supported, and then cramped the human intellect,—when it has proclaimed that facts are the objects of study, and strict induction knowledge—the necessity for erudition ceases, its utility becomes more dubious—and the philosophic student, turning from authorities that may deceive him, unto one that he believes cannot, disregarding men and worshipping nature,

is hurried, perhaps, by a generous confidence in the simplicity of truth, into a culpable disregard for learning.

As facts multiply, one mind is proportionably less able to comprise them, while the growing intelligence renders ignorance painful and probably injurious. Sciolism on the part of the majority is the consequence. But such sciolism is the result of the existence of much knowledge, it is not the evidence of little, and those who cite it as demonstrative of the decline of real learning betray a strange ignorance of its causes and its nature. Lord Bacon was a learned man in *his* day, because he knew most of what was then known, in all the branches of learning and of science. But no human faculties would permit the existence of a Lord Bacon now, of a man who *could* know one-tenth of what is known in those same branches of science and of learning. The age for admirable Crichtons is past, not because the stuff to form them is no more, but because no one man *can* now excel in all things.

Reverting to our immediate subject, we experience no small degree of difficulty in selecting from the works that crowd our table, those which are the best adapted for analysis. It is impossible to make our readers acquainted with all, and we must exercise some degree of discretion, both in giving and withholding. The mass of the profession are too severely occupied, to be able to devote the little leisure they possess to transcendental reveries, and they naturally require at the hands of a Journalist, what will be of practical utility. His aim should be to present in the smallest compass the most important facts.

The works whose titles are placed at the commencement of this article, contain much to interest and to instruct us. In their pages we find the contributions of some of the most distinguished living pathologists, and few of them but are calculated to increase our knowledge on the points which they embrace.

In dignity, perhaps in value, the Transactions of the Royal Medical and Chirurgical Society assume the lead. The present volume is made up of seventeen papers. If we enumerate them, they are:—1, Observations on Vascular Appearances of Mucous and Serous Membranes, as indicative of Inflammation; by Dr. Yellowly. 2, History of a Remarkable Case of Varicose Aneurysm; by Mr. Perry. 3, Case of Recovery from the Insensibility of Intoxication by the performance of Tracheotomy; by Mr. Sampson. 4, On the Treatment of Injuries received in Dissection; by Mr. Stafford. 5, Account of a Case of Fracture and Displacement of the Atlas; by Mr. Phillips. 6, Case of Recovery from Poisoning with Opium by Artificial Respiration; by Mr. Smith. 7, Remarks on two forms of Atrophy of the Heart's Valves; by Dr. Kingston. 8, Case of Unusual Dislocation of the Thigh-bone; by B. Travers, jun. 9, On the Injuries of the Spinal Cord; by Sir Benjamin Brodie. 10, On some Tumors of the Mouth and Jaws; by Mr. Liston. 11, On Ulceration of the Cæcum, &c.; by Dr. Burne. 12, On Black Expectoration; by Dr. Thompson. 13, Conclusion of a Case in which the External Iliac Artery was Tied; by Mr. Norman. 14, Researches on Pulmonary Tubercles; by Dr. Kingston. 15, On some of the Forms of Atrophy of Bone; by Mr. Curling. 16, Sequel of the History of Mary Wren; by Mr. Birch. 17, Removal of a Portion of Lung which protruded through a Wound; by Mr. Forde.

The third, the fifth, the ninth, and the thirteenth papers were fully noticed in the last number of this Journal. The remaining papers will be more or less fully analysed in this.

The fourth of the Guy's Hospital Reports, may, without impropriety, be embraced in the same article with the Medico-Chirurgical Transactions. This is no slight honour and it is creditable to the medical officers of Guy's Hospital, that they should continue to publish regularly such valuable observations as those Reports contain. They have set an example to the Physicians and Surgeons of other Hospitals, which has hitherto met with more praise than imitation.

It is not necessary to allude particularly to the other works upon the list. Their titles, and a portion of their contents are already familiar to our readers, and where we shall make use of them, a specific reference will of course be made to them.

1. AFFECTIONS OF THE BONES.

The first subjects to which we now beg to direct attention, are the reparation and some of the lesions of bone. The papers which treat of them are:—

1. *An Experimental Inquiry respecting the Process of Reparation after Simple Fracture of Bones. By Mr. Bransby Cooper.**

We need not, we conceive, inform our readers how much attention has at different periods been paid to the mode in which fractured bones are reunited—how many disputes with respect to that mode have arisen—what numerous experiments have been performed—what contradictory conclusions have been drawn from them—nor need we recapitulate the details of the recent observations of Dupuytren, Breschet, and Howship, which have gone far to compose all previous quarrels, silence all exclusive theories, and to bring within the pale of the familiar laws which regulate the nutrition and reparation of the softer tissues, the reparation and nutrition of the bones.

Those observations, though, perhaps, incomplete, have proved to demonstration, or, at all events to the satisfaction of most candid inquirers, that the union of a fractured bone differs little in the manner in which it is effected from the union of divided skin, or muscle: and, that the difference which does exist between them, depends merely on the necessary slowness of an adequate deposition of phosphate of lime.

Mr. Bransby Cooper has been anxious to remove what obscurity still attends the process, and to dispel any difficulties which may yet exist, in fully comprehending its details. He has been encouraged to repeat, and, perhaps, improve upon experiments performed by others, by the advice and assistance of Sir Astley Cooper. That excellent surgeon, who possesses in advanced life all the zeal and energy of youth, not satisfied with prosecuting his own useful researches in anatomy and physiology, has put Mr. Cooper in possession of observations formerly made by himself, on the mode

* Guy's Hospital Reports, pp. 179, et seq.

of re-union after fractures, and generously allowed him to merge those observations in the present paper. This enhances their interest, if not their value.

"A recent conversation," says Mr. Bransby Cooper, "held with Sir Astley Cooper led me to repeat a series of experiments, which he himself had many years ago projected and performed, and from which the contribution contained in this paper has arisen: and, as no one has thought more deeply, or experimented more extensively, on this subject than Sir Astley Cooper, so did I find that no one was more anxious for its farther investigation, or more sanguine in the expectation of some new light being thrown upon the process by which nature repairs a solution of continuity in the osseous system.

It was at his recommendation, therefore, and with the advantage of suggestions derived from his experience, that I undertook the task of repeating his experiments; the results of which appear to me to possess some novelty, and are certainly such as I had not altogether anticipated. To minds easily satisfied, and to those who think that the present subject has been amply illustrated and explained, it may reasonably be suggested, that even to go over old ground is often profitable, and, perhaps, in the pursuit, something unexpected may present itself." 180.

We should observe that this paper is the first only of a series, and that much may be anticipated from the careful and complete investigation which has been commenced.

Eight experiments have been detailed. Rabbits, as nearly as possible of the same age and size have been the subjects of them,—the thigh-bone has in all been selected for fracture—this has been done so as to injure the soft parts to the slightest possible degree—and the dissection of each animal has been carefully performed about an hour after its death, in order that, in all, the position of the bone might be similarly influenced by the contraction of the muscles. Five plates accompany the paper, and confirm or illustrate the descriptions.

In the first experiment, the animal was killed 24 hours after the femur had been broken—in the second, 48, hours were suffered to elapse—in the third, the period was 72 hours—in the fourth, it was 96 hours—in the fifth, it was 120 hours—in the sixth, it was 144 hours—in the seventh, it was 168 hours—in the eighth, it was 192 hours.

These experiments only extending to the eighth day after the fracture of the bone, cannot, of course, illustrate the ulterior consequences. But the subject will be pursued by Mr. Cooper, and those ulterior consequences will hereafter be described in a future paper. It is not necessary for us to enter on the details of the experiments before us; an account of the conclusions which may be drawn from them will be sufficient.

1. The first effect of the fracture is extravasation of blood, which fills up the cancelli of the fractured ends of bone, and infiltrates not only the cellular membrane, but even the muscles in the neighbourhood. The blood, by its coagulation immediately produces two desirable results; first, in effecting a degree of stiffness in the injured limb, which prevents the tendency to motion; and, secondly, in restraining a further hæmorrhage, by plugging up the torn blood-vessels, both of the bone and of the softer structures.

2. The coagula begin to solidify, from the absorption of their more fluid parts. The tumefaction of the limb then diminishes. Little change beyond

this is to be observed forty-eight hours after the accident, the coagulum only being found firmer than on the examination made at the end of the first four and twenty hours.

3. On the third day, the surrounding tissues begin to be inflamed, from the irritating influence of the coagulated blood; as evinced by the deposition of coagulable lymph, by which the muscles become connected to each other, and their power of contraction diminished, leading to a further means of preventing motion in the fractured ends of the bone. At this period, also, it is to be observed that the coagula, closing the cancelli of the two ends of the bone, are firmly united to the medullary membrane, as well as to the surrounding deposited lymph; and must in some degree, therefore, assist in maintaining a state of rest,

4. The inflammation induced in the surrounding soft parts still continuing, leads to the effusion of more adhesive matter: at the same time, the ecchymosis becomes less, and paler in colour, and the general surrounding tissues more distinct. From this period, the effused adventitious matter begins sensibly to thicken, and to acquire increased firmness; from a gelatinous effusion, forming a distinct tumour around the fracture, of sufficient solidity to limit still further the motion of the parts, and completely to prevent the muscles being irritated by the irregular ends of the bone. If at this period—namely, between the fourth and sixth days—the callus be examined, it will be found intimately intermixing with the surrounding muscles, at the points opposite to the fractured ends of the bone; and, internally, it is also connected with the periosteum and coagula filling the cancelli, thus isolating the fractured bone from the surrounding structures. After this, all the appearance of ecchymosis entirely ceases; and the only portion of the original coagulated blood which now remains, is that plugging up the ends of the bone, the fibrin of which appears to have become organized; and therefore it may be said, that the original extravasated blood in part assists in the reparation.

5. "About the sixth day, further consolidation ensues; the surrounding muscles appear distinct from the callus, excepting at the points opposite to the ends of the bone. The diffused matter has now both the appearance, firmness, and elasticity of cartilage; and by its contraction, which occurs simultaneously with its increased density, tends to bring the hitherto separated fractured ends of the bone parallel, although they overlap each other, through the influence of the muscles. At the points where the bones come in contact, the periosteum is absorbed; but in all the other parts, this membrane is inseparably connected with the surrounding mass, much thickened, and easily detached from the bone so as to give the appearance of the bone having been deprived of its periosteal covering; but the fact is, that it has only become blended with the effused callus. The portions of bone, where denuded, are softened, granular, and seem to be endued with a higher degree of vascularity than healthy bone, probably from the absorption of its earthy constituents. Here it is where the first traces of earthy deposition seem to commence; so that it would appear that the surrounding structures so far assist in the reparation of a fractured bone, as to induce approximation, limit motion, and diminish the irritability and contraction of muscle; while the osseous system itself deposits the earthy matter essential to hardness, the grand characteristic of bone. This view, however, is to be considered as somewhat speculative, as it requires further experiments to prove its validity: at any rate, it is shewn that all the soft parts participate in the injury, and perform a very important office in the completion of a cure:

this is rendered more obvious, by the consideration of the inefficiency of the bones of the cranium, neck of the femur, and some other bones, not surrounded by cellular and muscular systems, to work their own reparation. It is nevertheless certain, that so early as the seventh day, in some instances, and the eight and ninth day in others, earthy matter is secreted in the dense cartilaginous mass in the immediate neighbourhood of the fractured bones. Small specks of the same deposit are observed, at this period, in the fibrin which closes the opening of the broken extremities, and, at a more advanced time, completely shuts up these canals with a firm septum of bone. If sections of the cartilage be made in the mass surrounding the ends of the bone, and placed on glass and dried, the white earthy matter is rendered clearly visible, deposited in minute specks in this more transparent substance." 196.

So far the experiments, and the observations of our author go. At this point both halt, and the resting place is not a very unnatural one. They have brought us to the commencement of the deposition of the earthy matter, to the process, in fact of ossification. When the concluding experiments of Mr. Cooper are laid before the public, we shall pursue the subject, and complete our account of the reparation of fractured bone.

In the mean time, we would observe, that this process should be studied, and can only be accurately understood, in connexion with the growth of bone. In spite of all that has been written on the latter subject, much remains for investigation and elucidation, and we believe that patient and ingenious inquiry would be rewarded by satisfactory results.

So far as Mr. Cooper's observations have gone, we are not conscious of their having yet added much to what we know on the mode of reparation of bone. They confirm the opinions now generally entertained, that the surrounding soft tissues become infiltrated with blood, and subsequently with lymph, and that the latter, and perhaps the fibrine of the former become gradually organized, and the seat of the deposition of the phosphate of lime. The remark, which wanders from received opinions, is admitted by its author to be speculative, and appears to us to be of questionable accuracy. He thinks, that the first traces of earthy deposition are to be met with at the denuded bone itself, which would thus take the lead in the formation of the new bone. But this is contrary not only to what we should expect, from the superior vascularity of the contiguous soft parts, but even to what we have ourselves observed in experiments. We have found the earthy deposition in the fibro-cartilaginous clasp, while the enclosed denuded ends of bone presented no appreciable trace of it.

On the whole, the simplicity of the actual process of reparation of bone presents a striking contrast to the obscurity and difficulties with which the theories and disputes of the earlier anatomists surrounded it; and we may safely say that the only peculiarity in the process, the only circumstances which distinguish it from that of the re-union of the soft tissues when divided, consists in what must necessarily result from the slow deposition of the phosphate of lime, and from the quantity of solidifying material that is requisite to perform the mechanical office of bone.

II. *Observations on some of the Forms of Atrophy of Bone.* By Thomas Blizard Curling, Assistant Surgeon to the London Hospital, &c.*

Mr. Blizard Curling is known to our readers as the author of a work on

* Med. Chir. Transactions.

Tetanus very creditable to his industry, and not derogatory to his judgement. That work was characterised by its exact generalizations on published data, and the present paper is of a very similar description.

Its subject, Atrophy of Bone, is chiefly treated in reference to one or two forms of the affection, which have hitherto been either unnoticed by pathologists, or are only indifferently understood.

The term atrophy implies such changes as are consequent on defective nutrition. But Mr. Curling proposes to employ it here to express all those changes evinced by loss of substance, unaccompanied with any alteration in texture or organization, and without any reference whatever to the morbid action that produces it, since in the majority of cases it is impossible to determine with accuracy, whether the loss is the result of increased absorption or of defective nutrition. And we find it in the osseous system, as in soft structures, under circumstances which seem to indicate that it may be caused in both these ways.

Atrophy, continues Mr. Curling, may occur in the bones generally, or may be limited to certain bones, or to particular parts of bones, and it may be expressed by a deficiency of the earthy particles alone, or by a diminution of all the constituents.

Local atrophy is generally found to be induced by pressure or friction, and is frequently occasioned by the growth of various tumors. The process is probably one of absorption. In atrophy from pressure, the animal and earthy constituents are equally removed. Mr. Curling relates an interesting case, in illustration of this form of atrophy. In the case in question, the head of the right humerus had been fourteen or fifteen times luxated under the pectoral muscle. The bone had been generally replaced without difficulty, indeed without surgical assistance. On the last occasion, in August, 1835, the reduction was very difficult, and, a fortnight afterwards, the patient suddenly died of convulsions. We should observe that though the bone was usually easily reduced, it could not be retained in its natural position. On examining the joint, these circumstances were explained. The head of the humerus was greatly altered in shape, being of an oval form, and its long diameter being in a line with the axis of the bone. About one-fourth of it, together with the connecting cartilage, had been removed so evenly that the head appeared as if a section had been made of it. The inner edge of the glenoid cavity, with its cartilage, was also in great part removed. The portions of bone thus exposed were even and slightly polished. The capsular ligament was smooth internally, apparently enlarged, and loose.

Similar alterations of the head of the humerus have been figured by Sir Astley Cooper, and are preserved in preparations at Bartholomew's Hospital. But all the specimens, four in number, were obtained from subjects in the dissecting-room, and no history of them has been obtained.

"Local atrophy is sometimes the result of an injury, being produced by an action different from that commonly known by the term caries. A highly interesting example of local atrophy of a small portion of the cranium, following a contused wound, has been lately described by Mr. Travers, in the first volume of the St. Thomas's Hospital Reports. Instead, however, of being limited to a part of a bone, or to the seat of injury, atrophy may be occasioned in the entire bone from this cause, so that, without any evident alteration in

external configuration, by a change affecting both hard and soft particles, the bone may be rendered smaller and of diminished weight. This, in order to denote the direction of the wasting, and to distinguish it from another form, may be correctly termed *concentric atrophy* of bone. Cheselden, in his *Osteographia*, has figured the two thigh bones of a soldier shot in the right groin at Gibraltar, who, on returning home the following winter, died soon after of dropsy. The right femur is represented very much wasted as compared with the left, and it is stated to have been less than half the weight of the other." 341.

How local injury operates in producing atrophy is questionable. Commonly the changes to which it gives rise are of a different description. When the functions of the bones are interfered with or suspended, they waste, like the soft parts when similarly situated. This is seen, says Mr. Curling, in the bones of stumps after amputation, and in the bones of ankylosed limbs. In the new Museum adjoining the Ecole Pratique at Paris, founded by Dupuytren, there is a remarkable skeleton of an adult in which all the bones in the body are ankylosed, excepting the lower jaw and the bones at the shoulder articulations. The bones of the extremities are very much atrophied, the thigh bones being scarcely larger than an ordinary radius.

Bones waste, in common with other tissues, when deprived of nervous influence. A man died in the London Hospital, five months after meeting with a fracture of the twelfth dorsal vertebra, accompanied with such displacement as nearly to obliterate the spinal canal. Sensation and motion were totally lost in the lower limbs, which became atrophied to a remarkable degree, and were so light as to give rise to general remark. Lobstein records the case of a man who died at the age of fifty-four, with extreme atrophy of the right leg, which appeared to be consequent upon a fall received when he was a child, and by which the sciatic and crural nerves were severely injured. On examination, both the soft parts and the bones of the paralysed limb were found reduced to a remarkable state of atrophy. The right thigh bone was found to weigh little more than three ounces, whilst its fellow weighed nearly double; and the gastrocnemius and soleus of the sound limb weighed nearly four times as much as the corresponding muscles on the atrophied limb.

Atrophy is observed to be an effect of a diminution in the proper supply of blood. Such atrophy has been chiefly noticed in the testes, spleen, and kidneys.

The long bones are supplied with blood from two sources—1, from the nutritious or medullary artery, which enters the bone by a distinct foramen, and is distributed to the internal reticular tissue and medullary membrane; 2, from numerous vessels which, after ramifying more or less in the periosteum, are distributed to the outer and more compact tissue.

"Now it occurred to me, that in fracture of these bones one part must have the supply which it derives from the nutritious artery entirely cut off; and although both orders of vessels communicate freely with each other, yet the minute canals, through which the external or periosteal pass, being of a dense unyielding nature, these vessels must be prevented from undergoing that rapid increase in size, which, in the soft structures, constitutes so efficient a provision for a due circulation. I accordingly examined sections of fractured cylindrical bones, in order to ascertain if the ends which had been deprived of their normal supply of blood from the nutritious artery, underwent a corresponding degree of atrophy.

In nearly all the specimens which were first examined, I was agreeably surprised in finding my previous reasoning fully borne out. Thus, in femurs fractured below the entrance of the nutritious artery, I found the interior cavity of the inferior extremity enlarged, the cancelli expanded, and the walls thinned, a form of atrophy which I propose to distinguish by the term *eccentric*. A like alteration was also observed in fractured tibiae, whilst in a humerus, broken near the middle and somewhat above the entrance of the nutritious artery, the upper portion was the seat of this change." 346.

"This wasting of the osseous tissue in that part of a fractured bone, deprived of its usual supply of blood from the medullary artery is not *constantly* met with, and if the explanation, which attributes it to defective nutrition, be found correct, we should expect that atrophy would not be observed under the following circumstances :—

1. In bones recently fractured : because the process by which atrophy is accomplished must necessarily be gradual, hence some time must elapse before it will be perceptible.

2. In bones long united : because a collateral, if not the regular circulation is subsequently though not immediately established, by which means the previously existing lesion would have been repaired. In old persons, and in those of weak powers, the circulation may never be completely reinstated, in which case the atrophy will be permanent.

3. In bones fractured during the period of growth ; because the circulation in bone, as in other structures, being at this time more active, the vessels being larger and more numerous, and the canals, through which they enter the osseous tissue, less dense and but imperfectly formed, the circulation is re-established before any visible degree of atrophy can ensue." 347.

Mr. Curling goes on to say that—

"Another circumstance which must prevent *eccentric* atrophy from being a *constant* result of fracture, is a certain variation to which the nutritious arteries are subject. In some instances, instead of one artery entering the femur towards the superior part of the *linea aspera*, there is an additional vessel entering below the middle of the bone of larger size even than the superior. There are also occasional variations both in the number, size, and situation of the nutritious vessels of the humerus. In the tibia I have rarely found any variety." 347.

In proof of the preceding statements, Mr. Curling refers to preparations in the museum of St. Thomas's Hospital, Guy's Hospital, St. Bartholomew's Hospital, the London Hospital, the London College, King's College, Mr. Langstaff, and Mr. R. R. Robinson. The preparations in question certainly go to establish the general fact for which Mr. Curling contends, and if there should prove on more extended inquiry to be numerous exceptions, it is something to have pointed out the *tendency* which must still be admitted to exist. So far as the injury has actually gone, it is only fair to state that the exceptions are *not* numerous.

In spite of what has been urged by some surgeons, it is now generally admitted, that the neck of the thigh-bone, when fractured within the capsule, scarcely ever unites by bone—and it is generally believed that one, and perhaps the principal, cause of such non-union, is the inadequate supply of blood to the head and cervix of the bone. The head, under these circumstances, very frequently undergoes a marked diminution in size. The atrophy goes on throughout its whole texture, the cancelli enlarging while the head of the bone wastes. This must be viewed as an instance of atrophy from defective nutrition, and from loss of function, combined, with friction.

When atrophy of bone occurs in consequence of the supply from the medullary artery being cut off, no alteration can be perceived in the medulla or its membrane.

There is another kind of atrophy of the neck of the femur, very well ascertained, and very interesting to the surgeon and pathologist. It is the atrophy which occurs in old age, and which commences earliest and goes farthest in this part of the osseous system.

"The atrophy of old age," says Mr. Curling, "is chiefly *eccentric*, the cancelli and medullary cavity first enlarging, and the outer shell subsequently becoming thin, and it is attended with an increased deposition of medulla. In some cases the earthy parts are removed before the animal tissue, which accounts for the head of the femur sinking down upon its shaft and becoming altered in figure. More commonly, however, the texture remaining is brittle, possessing a more abundant share of calcareous matter than at the adult period, so that the external form and size of the bone is preserved, and, instead of yielding to pressure, they break on the application of the slightest force. In either case however the bone weighs less than at the adult period.

A change, very similar to that noticed in the head of the femur, as the result of the *eccentric* atrophy of old age, attended with softening, sometimes takes place in the head of the humerus. But as this bone is attacked at a later period and is subjected in a much less degree to the influence of pressure, the depression and alteration in figure are, by no means so remarkable as in the femur. A good specimen, illustrating this change in the head of the humerus, is contained in the collection of morbid specimens at the London Hospital." 355.

The last species of atrophy of bone which occupies Mr. Curling's attention is *mollities osseum*. He contributes one fresh case to the existing stock, and has carefully examined and compared those which have been previously published. But we shall not attempt to investigate this curious disease at present, as a remarkable case of it has lately fallen under our own observation, and we propose to lay the details before our professional brethren. We therefore take our leave of Mr. Curling, and proceed to a paper by Mr. Liston, on extirpation of the upper jaw.

III. *Observations on some Tumors of the Mouth and Jaws. By Robert Liston, Esq. Surgeon to the North London Hospital,*

It is very creditable to surgeons and to science, that much less consideration is now attached to operations than was formerly the case, and that men of great ability and talent for investigation, have applied themselves to what is known in common language as "medical surgery" rather than to the acquisition of mere mechanical dexterity. The latter is, no doubt, an useful and a showy accomplishment, but whoever has witnessed the performance of a sow gelder or the bloody legerdemain of the shambles, must admit that it is possessed in the utmost perfection by the lowest, the most brutal, and most ignorant of men.

We cannot conceive anything more revolting to the mind of a man of intelligence and of humanity, than the reflection that he is regarded as a sort of human butcher, whose hand and not whose head is called into requisition, and who, like an executioner, is only wanted when there is bloody business to be done. Such a man must feel how cheap he is, and deserves to be, held in the world of intelligence and science, and he must own with humiliation that he is little better than a handicraft mechanic.

The history of lithotomy and hernia is sufficient evidence of the extent to which mere operative skill may be carried, amidst the grossest ignorance of all that should regulate the performance of operations. Itinerant rupture doctors formerly made their circuit through the country, practising a mechanical art transmitted from master to apprentice and from father to son, and these bold quacks did not hesitate to operate with confidence and with manual dexterity, for a disease with which they were imperfectly acquainted, on parts, the anatomy of which they did not now.

Surgery, taking its rise from the unwillingness of the educated priest to dabble in blood, and confided at first to menials and to barbers, was long regarded as a mere mechanical art, even when menials and barbers had abandoned it. When we read the works of Mr. Pott, we are struck with the ignorance he displays of medicine, and we constantly observe that if a purgative is to be administered, the physician is solicited to judge of its expediency, and, if expedient, to prescribe it.

To John Hunter is pre-eminently due the praise of having raised surgery to a science and surgeons to the rank of scientific men. No doubt, the general and successful cultivation of anatomy, physiology, and pathology, has tended to the same result, but the relative position of surgeons in this country and abroad, shews how much is to be attributed to the individual exertions and influence of Hunter. In England our best surgeons have a high scientific reputation, quite independently of operative skill, and their consultation-rooms evince how small a proportion the subjects of operations bear to the other patients who consult them. Whatever mechanical merit may be possessed by Astley Cooper, Brodie, Lawrence, Guthrie, Bell, Travers, Green, their reputations are of a higher order, and founded on something better than mere manual dexterity. On the Continent, we see surgery more as it was and less as it should be. The hospital surgeons of Paris are remarkable for their adroitness, and amputate a limb with all imaginable sang froid and celerity, but their opinions before operations and their treatment after it, are notoriously indifferent. The only French surgeon who at all approached the English standard in his *practical* attainments was Dupuytren, and although he fell far short of Cooper or of Brodie in the power of *treating disease*, he was still so much superior to his competitors among his countrymen, that he was regarded as a prodigy. The publication of his Clinical Lectures has convinced the profession in this country, how little of the prodigious there really was in his attainments. Dupuytren, too, was far from a very dexterous operator. He was excelled in many points by Lisfranc, and in some by Roux, yet even in Paris, where a vicious taste, and the imperfection of practical medicine have tended to give a meretricious charm to operations, even there, the sterling qualities of Dupuytren commanded the success which they deserved.

We fear, however, that mechanical dexterity has been undervalued in this country. On the Continent, the performance of operations has been systematised, and every motion, every step has been a matter of investigation and of demonstration. If we have had good operators here, their patent has been like that of—

“God Almighty’s Gentlemen.”*

* “And as times went then,
His tribe were God Almighty’s gentlemen.”—*Dryden*.

the produce of human institutions. Yet, surely, the man to whose hands and knife the living flesh of a fellow-creature is to be submitted, should expend some trouble in acquiring that manual facility, which will spare the patient unnecessary pain, and directed and controlled by the higher mental qualities, will conduce materially to his safety. Adroitness is not comparable with those qualities, it is true, but fortunately it may be possessed along with them, and the surgeon who has the higher requisite is inexcusable if he does not obtain the lower.

These remarks have been called forth by the subject to which we are approaching—the tumors of the mouth and jaws.

It is scarcely necessary to remind our readers that the results of the numerous and varied investigations on the nature of the morbid growths and morbid changes of structure may be very briefly expressed. It seems now to be pretty well established:—1, *that*, there are many morbid growths and a few alterations of structure which have no tendency to what is called malignancy;* 2, *that*, there are growths and alterations of structure, which are decidedly malignant; 3, *that*, there are growths and alterations of structure, which appear to be intermediate between the malignant and the non-malignant: they tend strongly to their own destruction by sloughing or by ulceration, and, so far, they are malignant: but the system shews no disposition to regenerate them when they are removed, or to develop them in other parts, and in that respect they are not malignant; 4, *that*, the physical characters, and the distinctive marks of some of the malignant and non-malignant formations are susceptible of exact appreciation; 5, *that*, the characters of other new formations cannot, from the examination of their physical structure, be determined with precision;† 6, *that*, a new formation which has no malignant characters at first, may present malignant characters afterwards: in other words, the non-malignant are convertible into the malignant formations; 7, *that*, the removal of malignant formations by art is, on the whole, extremely unsuccessful and unsatisfactory, for, although, in a few cases, there is no return of the disease, in the majority, it re-appears in some part of the body.

Such we believe to be the conclusions to which well-informed surgeons in this country have come. If they are correct, two important facts are made out:—1, Operations for the removal of the malignant formations are to be undertaken with reserve, and with little expectation of ultimate success; 2, It is difficult, if not impossible, to decide whether many new formations are malignant or are not, and, consequently, if they are subjected to ope-

* By "malignancy" is now understood, a disposition in the morbid tissue to be destroyed, sooner or later, by ulceration or by sloughing, *and* a tendency in the system to the formation of similar morbid tissues, whether the primary one is removed or not.

† For example:—we can pronounce that a common fatty tumor is not, and that a well marked encephaloid tubercle is, of a malignant character; but we cannot pronounce, from an inspection of its structure, whether some of the tumors which form in the breast, and many of those which grow from the fibrous or the osseous tissues are malignant or the contrary. We have seen tumors extirpated, which, on examination, had no positive malignant character, and which were looked on as decidedly not malignant, yet true malignant growths have occurred, after the operation, in other parts of the body.

ration, it is equally impossible to predict, with any certainty, the issue. In these latter cases, it is commonly the event, and the event only, which solves the dubious question. If no return of the disease takes place it is supposed that the disease was not malignant, and, if such a return occurs, it is concluded that it was malignant—an *ex post facto*, but an unavoidable species of reasoning.

When we reflect on these difficulties which confessedly surround the diagnosis, and the treatment of the new formations, we shall regard with suspicion those formidable operations which have of late years been undertaken for their removal. Such operations exhibit some skill, and more determination on the part of the surgeons who have undertaken them, but it is not so certain that they have always been sanctioned by judgment and deliberation. The details of the operations have been laid before the public, the dexterity of the operator has been the subject of panegyric, but the final results have not, in every instance, seen the light. Before we close these observations we would express our conviction, that if there is a case in which it is necessary to know well when to operate, it is that of the morbid growths. A heavy responsibility lies upon the surgeon, and when the welfare not only of the particular patient before him, but of many other patients, and of science, hangs on his decision, that decision should be founded on other considerations than motives of personal display. We agree, then, with Mr. Liston in the sentiments with which he opens his paper.

“The attention of the profession has been more particularly directed of late years to the diseases of the jaws, in consequence of the novel and bold operations which have been resorted to by some surgeons for their removal and permanent eradication. Many of these affections were formerly looked upon as perfectly irremediable by any means, and indeed I can recall to my recollection several cases which I witnessed when I first embarked in the profession, which were given up as incurable after severe though ineffectual attempts to control their growth by escharotica and actual cautery, which would now be fearlessly and successfully attacked, and effectually removed by operative procedure. Many of the diseases of this region are still, however, in some stages, from their intrinsic nature and disposition, beyond the reach of the science and art of surgery, and one principal object which I have in view in the following paper is to point out what I consider to be the characters by which those tumours which may with safety and propriety be interfered with, may be discriminated from those affections, on the other hand, which no conscientious or well disposed surgeon ought or would think of touching with a knife. I hold it to be a maxim never to be forgotten or departed from, that no operation, far less one hazardous to life, should be entered upon, unless there be a fair prospect and strong probability of ultimate success. No man is entitled to put the life of another in jeopardy unless, after all the suffering and risk attendant upon this last resource, success is likely to crown his efforts.—In all diseases, wherever situated, of a malignant tendency, when from their extent and duration there is a certainty, or even a probability of the neighbouring parts being affected, or so disposed as to take on the same action, or where the lymphatic system is contaminated, very little prospect or hope of successful issue can be held out. We are therefore called upon to look to the previous history of such diseases, their origin, progress, and duration,—to the signs of the malady,—and from these to form, so far as we are able, a correct diagnosis.” 166.

We now proceed to give an account of Mr. Liston's observations on the No. 69.

tumours of the month and jaws, observations intended to elucidate their nature, and to discriminate the malignant from the non-malignant forms.

1. He alludes to *parulis* and *spina ventosa*. The latter name is almost obsolete, the thing described by it uncertain, the pathology of it unsatisfactory, and the treatment, consequently, dubious. On this head Mr. Liston says nothing new, nor does he make any additions to our knowledge of *epulis*.

2. But he says, "A disease of a more troublesome nature seems however to proceed originally from the sockets of the teeth, from the periosteum of the root. It appears as a soft vascular growth from the apex or side of the fang, (the soft medullary fungus filling up and projecting from the hollow of a decayed tooth seems to have a different origin); this is loosened, the gums separate and become injected and flabby, they swell out and form a tumour investing the teeth, which one after another become displaced, and after being removed, their roots are sometimes found highly injected with blood. Copious sanious discharge is furnished from the soft and fungous mass, which bleeds on the slightest touch; the osseous tissue comprising the alveolar processes, and even the substance of the jaws, is changed into a soft lardaceous or brain-like mass. Of this disease in its incipient and advanced stage, there are to be seen specimens in many collections. It is not improbable that many of the more solid and less malignant diseases, involving the upper and lower maxillary bones, have a somewhat similar origin.

The progress of these diseases is various; in some it is rapid, and the growth is soft and unlimited. It soon bursts through the walls and investments of the bone, adhesions are formed to the neighbouring parts, which take on an unhealthy action, a fungous growth of a soft and bad character is thrust out into the mouth, the lymphatics are soon affected, and the case is speedily in a hopeless condition. 169.

The preceding observations corroborate, so far as they go, what we have already urged, that the diagnosis of the malignant and non-malignant tumors, more especially of those which spring from the fibrous structures or from bone, is involved in difficulty and obscurity. Mr. Liston first of all admits, that the tumors which go by the name of *epulis*, though not generally "*mali moris*," "occasionally do degenerate, contaminate the neighbouring parts, and are liable to be reproduced, and sometimes after some interval from their apparently complete extirpation." In other words, *epulis* is sometimes malignant and sometimes it is not, and no characters are mentioned by which we may decide the question.

In the second place, Mr. Liston, after describing a malignant growth, allows that it is not improbable that "many of the more solid and less malignant diseases, involving the upper and lower maxillary bones, have a somewhat similar origin." Thus, physical structure is no certain criterion, for *epulis* sometimes turns out to be malignant, and mode of origin is no certain criterion neither, for malignant and non-malignant growths may have a similar one.

3. "In the upper jaw," continues Mr. L., "a most malignant and intractable disease is met with, often traceable to long continued irritation in the alveolar processes or sockets, from the presence of decayed or bad portions of teeth. The disease, it is probable, sometimes commences in the manner already indicated, and spreads to the lining membrane of the maxillary antrum, or it may

and must often have its origin in that tissue originally. We find, in fact, though more rarely, the same morbid structure springing out of the frontal and sphenoidal sinuses primarily. This disease is so well known that it would be out of place here to enter into a description of its progress or anatomical characters. Its accession is insidious, the patient has painful sensations in the side of the face, a feeling of distension, there is some increased discharge from the nostril, and the cavity becomes obstructed. Lodged deeply amongst the bones of the face, it makes its way at first very gradually, drawing into the same action the investing parts, the bone and its exterior covering, the teeth become loosened, the walls of the cavity are protruded and softened, œdematous matting and discoloration of the cheek follows, fungous growths shoot out into the nose, towards the mouth through the thin anterior parietes, or through the palate, presenting a soft, ragged, foul ulcer, (not very appropriately designated cancerous by some writers,) through the tuberos process backwards to the throat, and ultimately towards the eye through the floor of the orbit, extruding this organ, and involving it in a frightful, soft, and sometimes bleeding mass. To this disease the term *osteosarcoma* (not a very good or appropriate one in any instance) has been often applied. The bone is involved secondarily in many cases in the morbid mass, is expanded, softened, and wasted by its blasting influence. It is not a tumour of bone or a conversion of it into flesh, or pulpy matter. The march of this disease is usually exceedingly rapid. Some tumours in this situation, soft and brain-like, and from the first of a bad kind, grow more slowly and have no great tendency to bleed." 170.

This is a description of undoubted malignant disease. Yet even in this there are varieties, for sometimes its progress is tardy, sometimes rapid—sometimes it is soft, and sometimes comparatively hard—sometimes it springs from the alveoli, sometimes from the sinuses—sometimes it originates in one tissue, sometimes in another.

4. Tumors of erectile tissue have been found to occupy the antrum. They are rare.*

"But the superior maxilla is found now and then to be involved in a tumour of a more simple and manageable nature, commencing in the osseous structure or periosteum. Some rare cases also of extensive deposit, of very hard osseous matter ultimately filling up the cavities and fossæ of these bones, are occasionally met with. The fibrous or fibrinous tumours, as they are more properly denominated by that indefatigable pathologist Mr. Kiernan, are very generally traceable to some external injury, (to which indeed the majority of enlargements of parts and new growths in all situations are to be attributed,) and are of comparatively slow growth. From its more exposed situation, the lower jaw is more frequently found affected with swellings of a simple or fibrous character than the upper, and it may be deduced from what has already been remarked, that the affections of the latter bone are generally of a malignant kind; those of the former more benign. As it has been already remarked, however, simple tumours involving the upper jaw and neighbouring bones, principally the *os maxilæ* are occasionally met with, and the lower jaw is not exempt from the attacks of the softer and more troublesome degenerations.

The simple tumour, whether involving the upper or lower jaw, differs in consistence and in form also from those soft, lardaceous or pulpy and brain-like masses, whose appearance and progress I have shortly alluded to. They attain though slowly a great size, they present a *globular* or *botryoidal* form, displace

* One of the most remarkable is that related in Pattison's edition of Burns, *Surgical Anatomy of the Head and Neck*.—REV.

the surrounding soft and hard parts, project from the countenance, and deranging the features produce great and frightful deformity. The skin may be thinned and pervaded by enlarged venous branches; it is discolored, but not incorporated even in an advanced stage with the morbid mass, nor are any of the surrounding tissues contaminated. The projection towards the mouth, often large and passing down by the side of the opposed teeth and jaw, is hard and elastic, and conveys the feeling of brawn interspersed with bony particles; but it is covered by a continuation of the mucous lining of the cavity slightly thickened and altered, furnishing an inconsiderable discharge, and that neither offensive nor of a bad quality. This growth in the mouth presents indentations made by the teeth with which it comes in contact. The hard palate when the upper jaw is involved, is generally covered by a thick layer of tumour, which projects over, and lies in contact with, but is not adherent to it, nor to the gums supporting the teeth of the opposite side. It obscures the view of the velum and fauces, and by impeding respiration makes the patient very uncomfortable, renders his supply of nourishment incomplete, and even puts his life in jeopardy. The tumour of the lower jaw again, by the displacement of the tongue and interruption to the performance of its functions, is equally inconvenient and dangerous. In the records of surgery, I can find very few such tumours described as affecting the superior maxilla, and my enquiries respecting the cases which have been subjected to operation, which are as yet unpublished, would lead me to conclude that the diseases interfered with, have not all been of this benign and tractable nature. In many of these the morbid action has not ceased, the growth has been reproduced, and the patients have not in any way been benefited by the treatment." 173.

Such is Mr. Liston's description of the non-malignant tumor of the upper jaw. He very properly repudiates as a general proposition the attempt to remove the malignant tumors by the knife. He stigmatises it, and not too coarsely, as fool-hardiness. It is worse. Fool-hardiness is a term which is applicable to one who does a foolish act which may be injurious to himself. But when that folly is at another's expense, the vocabulary must be searched for some more damning epithet.

But as Mr. Liston limits the propriety of operating to tumors which are not malignant, and as he attempts to describe their characters, it is necessary, of course, to examine that description, in order to ascertain if it be sufficiently precise to prevent the risk of misconception.

The distinctive features of the simple tumor appear, on analysis, to be the following:—1, its slow growth; 2, its great size, and globular form; 3, its hardness; 4, its fibrous, or fibrinous structure; 5, its indisposition to convert to his own nature the tissues with which its growth brings it into contact.

It must be owned, that the *ensemble* of these characters is that of a non-malignant tumor, and that wherever they characterised a growth, that would be considered, *cæteris paribus*, not very ill adapted for an operation. But while this general admission must be made, it does not follow that the distinctions between this and the true malignant tumors are too marked to prevent the possibility of error. Experience has proved, with respect to tumors in other situations, that neither slow growth, a fibrous structure, nor indisposition to involve contiguous parts, are *certain* guarantees of the absence of malignity, and he must be a bold pathologist, we might almost add an ignorant one, who would say of such a growth as has been described by Mr. Liston, that it would not and could not contaminate the constitution, or be succeeded by similar growths when removed.

Practically, however, the question is not a broad one. If it is granted, and we think it must be so, that the characters of the tumor are, on the whole, not such as would preclude an operation, it is the surgeon's duty, supposing an operation practicable, to perform it at as early a stage, and under as favourable circumstances, as he can.

Mr. Lizars first shewed that an operation for the removal of the upper jaw is practicable, and he pointed out the method of performing it.

Mr. Liston has ascertained that fifteen cases have been laid before the profession and the public, in which it appears that the whole or greater part of the superior maxillary bone has been extirpated, (in one of them, by the way, incisions were made for this purpose on two separate occasions, and but little of the disease removed). Eleven of these patients died, either from the immediate effects of the operation or from a return of the disease. The operators were Messrs. Lizars, Gensoul, Syme, Robert, Scott, Earle, Guthrie, and Hetting. In two of the four who are said to have been cured, the tumour is admitted to have been soft, and probably of a bad kind. In fact, out of the fifteen, one case only appears to have been, at the period when interfered with, very favourable for the operation; the first, viz., recorded by Gensoul. That tumor he describes as globular, of firm consistence, fibro-cartilaginous, and of a homogeneous structure. M. Gensoul's second case also seems to have terminated favourably, and is one of those already alluded to as composed of erectile tissue.

Different modes of operating have been adopted, and Mr. Liston offers the following short account of them.

"The tumours of the gums cannot be satisfactorily or permanently removed unless the teeth which they embrace are extracted, whether these be in a sound state or not. Indeed some slight and more simple swellings will subside on the removal of the remains of diseased teeth, which have acted as the exciting causes of mischief. There can be no doubt as to the propriety and absolute necessity of taking away all source of irritation as a preliminary step to operations of any kind in this cavity, whether the disease has arisen in the mucous surface, in the substance of the lips or tongue, in the glands, gums, or osseous structure, or in the cavities contained therein.

An incision should be made with a strong pointed knife, so as to surround the base of the tumour, and wide of the morbid structure; when the alveolar processes are involved, these must be cut away with cross cutting forceps, and if to any depth, perpendicular sections should be previously made on each side of the mass with a fine saw. When there is reason to dread that the structure is at all of a bad kind, when unsuccessful operations have been previously practised, besides the free excision, it will be advisable, after the oozing of blood has ceased, to apply either the actual or some potential cautery to the exposed surface. In many cases this is not demanded, as a permanent cure is often found to follow the clean extirpation. The incisions either in the upper or lower jaw, must necessarily be made so free as to take in the whole morbid mass. I have found it necessary to remove extensively the floor of the antrum and to cut down the alveolar ridge of the lower jaw, leaving merely a thin line of the base, in order to attain this end in some cases. This proceeding is preferable, when it can be accomplished to the cutting across and removing the whole thickness of the bone; deformity is thus in a great degree guarded against, and the corresponding teeth of the upper and lower jaw meet. But even after the removal of great portions of this bone, as by disarticulation, and by some attention on the part of the patient, (he being provided with, and being directed to wear for some time and during the night, caps fitted to the teeth of the sound side above and below, and soldered

together,) the remaining half of the bone, during the cicatrization within the mouth, is prevented from being drawn away, and much annoyance is thus averted.

The malignant tumours, those of soft consistence, which lose themselves insensibly in the neighbouring tissues, if interfered with at all must be attacked by some very effectual operative procedure, and in their very earliest stage. The fore part of the antrum so affected, as already noticed, has been exposed and opened in very many cases by incisions of the cheek and the morbid growth been taken out, and this has been followed up by the application of strong escharotics or of cauteries. The result of such operations has seldom been at all satisfactory, as can be readily understood. The difficulty, even in favourable cases, of taking away after this fashion the whole of the contaminated parts is very great, and there is reason to fear that very frequently the progress and fatal termination has been, under such circumstances, accelerated." 177.

Mr. Liston relates four cases, and glances at two others, in which the superior maxillary bone was removed on account of a morbid growth. It is not necessary for us to enter on the details of these cases, and we shall merely extract the particulars of the operation in one, in order to shew the steps pursued in the removal of the tumor.

Case. It is necessary to mention the form and the dimensions of the tumor, in order that the course of the incisions may be more readily apprehended.

The tumor is as large as a moderate-sized cocoa-nut, causing great deformity. The mouth is drawn to one side, and the vision of the left eye partly obstructed. She complains of very little pain, and her general health is good. The swelling is of firm consistence, and appears to involve the whole of the left superior maxillary bone; internally it occupies the whole of the palate, but is unattached on the right side; a probe can be passed under it for some distance. It extends as far back as the finger can reach, and projects over the velum, concealing a great part of it.

The operation was performed as follows:—

"After removing the central incisor of the left or opposite side, which was rendered necessary by the extent of the tumour, Mr. Liston commenced an incision a little below the inner angle of the eye and carried it obliquely under the corresponding ala of the nose, detaching its cartilage from the bone, then through the lip into the mouth, in the mesial line. An incision was next made from the prominence of the cheek to the angle of the mouth. The flap thus formed was reflected upwards. The tumour, it was now ascertained, extended considerably backwards, and it was necessary to make another incision, nearly at right angles, on the outer perpendicular one, in the line of the zygomatic arch: the tumour was thus exposed throughout its whole extent. With strong cutting forceps the nasal process of the superior maxilla was divided; the operator next cut through the zygomatic arch, near the auricle, and then through the malar bone at the transverse facial suture into the speno-maxillary fissure; the diseased maxilla was separated with great facility from its fellow of the opposite side, by strong scissors, leaving the palatine plate of the palate bone and velum palati entire and untouched; the superior maxillary nerve was carefully divided. The diseased mass was now readily removed, involving the whole of the superior maxillary bone, the whole of the malar inferior spongy bone, and the zygomatic process of the temporal bone. The internal maxillary artery, which bled not very freely, was immediately tied, and the edges of the flap brought together by five points of twisted and two of interrupted suture." 191.

II. ON INFLAMMATION, CHRONIC DISEASE AND PERFORATIVE ULCERATION OF THE CÆCUM, AND OF THE APPENDIX CÆCI, WITH SYMPTOMATIC PERITONITIS AND FÆCAL ABSCESS. By *John Burne*, M.D. Physician to the Westminster Hospital.

The fault of the present day is certainly not "*abandonnement de soi*," nor are pathologists more remarkable for that weakness than their neighbours. Every one, in the medical world, is anxious to be esteemed, is willing to believe himself, a discoverer. We see this anxiety manifested in every conceivable way. Your hospital surgeon affects an entire ignorance of all that is done or that has been done by others, and delivers a clinical lecture, or publishes some clinical reports, in which he dwells with most becoming importance and solemnity on results of his experience, which, oddly enough, every reader, not actually a neophyte discovers, to have been the results of his experience too. The physician, if of a practical turn, has hit, on some nice points of diagnosis, which may possibly, have been hit upon before, but which he verily *believes* never were so. The pathologist, the knight errant of medicine, "*his eye in a fine phrenzy rolling*," has found in some tissue a little more white or a little more black, than he *conceives* other pathologists have: and is he not a discoverer? Nay, the merest routine practitioner has the genius of invention too, for he has a mixture of a pill, which suits the debilitated old ladies or the hysterical young ones, far better than any former, or any contemporary, pill or mixture. Look which way we will, we see novelty stare us in the face, and it is gratifying to think not only that there is so much of it, but that there is so much genius afloat.

Yet the cynic is disposed to observe, that the industry displayed in collecting and in publishing original facts, is very disproportioned to that exhibited in ascertaining and recording the previous researches of others. An author has two eyes of very different refracting powers. One is microscopic, and with that he deciphers his own page, in which the minutest letter acquires size and importance. The other has the faculty of diminishing all great objects, and of rendering ordinary ones imperceptible, and with this eye he reads the pages of his rivals. Authors may claim the privilege of forming a part of the providential scheme, which provides for the continuance of what is valuable on earth. They resemble those birds which swallow grain, and voiding it at a remote period and in a distant place, in the shape of excrement, are the useful means of disseminating the seed.

But we must turn to the paper before us. Dr. Burne is an intelligent and a zealous physician. He has cultivated pathology with assiduity, and has, at different times, communicated the fruits of his labours to the public. His reason for writing on the present subject is briefly stated in the following paragraph.

"The diseases of the cæcum, and of the appendix vermiformis, which form the subject of this paper, have received no separate consideration in the systematic works on practical medicine; nor have I met with any notice of them except in the medical periodicals, in which detached cases have from time to time, been published." 200.

Abscess in the iliac fossa connected with or dependent on ulceration of the cæcum has been made the subject of more elaborate notice, than the preceding extract would lead its readers to suppose. For distinct articles upon the subject have appeared at various times in this Journal, a memoir on it has been published by M. Tealier in the Transactions of the Société Médicale of Paris, and M. Dupuytren has expressly treated of it in a distinct chapter in his *Leçons Orales*.* But perhaps, Dr. Burne has drawn more attention than had previously been done to inflammation of the cæcum, unaccompanied by perforation or by abscess in the contiguous cellular membrane. We shall, therefore, notice this portion of his paper, and pass over in a cursory manner the more familiar division of it.

A. "An idiopathic inflammation of the cæcum," says he, "from the ordinary general cause, exposure to the vicissitudes of the weather, has not fallen under my notice. The inflammation of which I am about to speak has in every case been symptomatic of some mechanical exciting cause, as the lodgment of undigested food, of fruit-stones, or of concretions, which the structure of cæcum and appendix favours; and hence the peculiar features of the disease." 202.

The operation of foreign substances in determining irritation, and consequently, inflammation of the cæcum has been strongly insisted on by M. Dupuytren, who was, perhaps, the first to draw attention very forcibly to these affections.

"The affection," says that author, "is infinitely more common on the right side than on the left, which is evidently due to the anatomical relations of the parts. On the right side, the cæcum is comparatively little invested by the peritoneum, its posterior part is invested by a loose cellular membrane, and where it joins the small intestine (at the valve of the colon) a sudden contraction of the tube takes place forming a kind of nest for the lodgment of irritating foreign bodies, as plumb-stones, cherry-stones, &c."

To revert to Dr. Burne, and to the case:—

"In all the examples of inflammation of the cæcum which I have witnessed, the development of the symptoms has been in the following order. The first sign is a sense of uneasiness which soon amounts to an aching pain, deep-seated in the right ilio-inguinal region, arising unexpectedly while the person was in health, and not preceded by rigor or exposure. This pain increases progressively for twelve or twenty-four hours, retains its character, is fixed and constant, never even remitting. Then supervene gradually tenderness, fulness, and tension of the whole ilio-inguinal region: the bowels are constipated and do not reply to medicine, and the patient grows sick and vomits. Some febrile movement now begins to manifest itself, the tongue becomes white and furred the urine scanty: the appetite is gone, the pulse is frequent, tight and sharp, with increased volume, but the stroke though sharp is not strong, nor is its impression on the finger decided, it is a pulse of irritation and inflammation combined; the patient lies on the back quite still, slightly inclined to the side affected, and the case presents a serious aspect.

This state of things will persist for several days, the pain remaining of a very severe aching character. The fulness and tension of the part will increase and extend to the other regions of the abdomen, which hitherto had been soft and

* We have ourselves reported several cases of the kind, and made, at different times, some observations on the subject.—*Eds.*

not tender; and a sign will now be present in an eminent degree characteristic of this inflammation, it is an *exquisite tenderness* of the abdominal parietes covering the cæcum, a tenderness far exceeding that of an enteritis, even of a peritonitis; the patient will scarcely allow a finger to be laid upon the part; when you go to examine it he lays hold of your hand and supplicates you in an earnest manner not to touch it, not to hurt him; he cannot bear the weight of the bed-clothes upon it: the tenderness is as exquisite as in any case of acute rheumatism I ever saw. The constipation continues, but the vomiting does not become frequent and distressing as in enteritis, nor does the face betray so soon the anxious aspect. Taking the case altogether, it is not such an imminent affair of life and death as an enteritis, though in the sequel it may prove equally fatal. Such are the signs of the symptomatic inflammation of the cæcum." 204.

Dr. Burne's remarks are more precise, as we shall shew, than M. Dupuytren's who thus enumerates the premonitory symptoms of suppuration in the iliac fossa.

"L'apparition de ces tumeurs est souvent précédée de symptômes précurseurs qui annoncent le développement prochain de la maladie. A la suite de quelques erreurs de régime, d'une constipation ou d'une diarrhée plus ou moins prolongée, de coliques plus ou moins habituelles, quelquefois sans qu'aucune de ces causes ait paru, la malade éprouve des coliques plus violentes et des douleurs d'entrailles qui ont une tendance à se concentrer dans la fosse iliaque droite; elles peuvent aussi irradier dans la direction du gros intestin; ou bien être disséminées dans toute l'étendue de l'abdomen.—Ordinairement ces coliques sont accompagnées de constipation, et dans quelques cas, de vomissemens.—Tels sont les signes à l'aide desquels on peut prévoir l'apparition de la tumeur. Leur durée varie beaucoup, et l'on voit des malades qui en sont tourmentés pendant six semaines, deux mois et plus, tandis que d'autres ne les éprouvent que quelques jours avant l'invasion de la phlegmasie." 334.

If alvine evacuations can be procured, and the symptoms subside, which seldom occurs in less than seven or eight days, the termination of course is favourable. Occasionally evacuations are not obtained, the symptoms do not subside, and the patient sinks rather from exhaustion than from inflammation; or, ulcerative perforation of the cæcum occurs, and a circumscribed emphysematous tumor presents, either in front, in the right ilio-inguinal region, or posteriorly in the right ilio-lumbar region; this tumor being a fæcal abscess which is making its way to the surface of the body. If the perforation has taken place on the anterior part of the cæcum, adhesion will have formed around the perforations, and thus the fæcal abscess will arrive at the circumference of the body without involving the peritoneum in a general inflammation; if of the posterior part, which has no peritoneal tunic, then the peritoneum will escape altogether, and the abscess tend upwards and backwards to the least resisting part of the lumbar parietes, which is at the outer edge of the quadratus lumborum muscle. This abscess may discharge itself and the patient do well; or nature may be unequal to the task, and the patient sink exhausted.

"The *diagnosis* of these cæcum cases is determined with precision by the seat of pain, the exquisite tenderness, and the tension—by the sudden invasion of the symptoms while the person was in health—by the local signs preceding the development of the febrile movement—by the degree of fever being less than in idiopathic inflammation, and by the less marked anxiety of the countenance.

If any doubt remain, it will be dissipated by laying the hand upon the part, when the circumscribed fulness and hardness in the region of the cæcum will give assurance of the seat and nature of the affection. A practitioner who witnesses one of these cases for the first time is satisfied it is not a common inflammation of the bowels, although he does not know its exact nature: he says the case is a curious one; he cannot make it out." 205.

The treatment may be readily conceived. As the inflammation is the result of a mechanical source of irritation, or, perhaps, obstruction, it is obvious that depletion must not be carried to so great an extent as in idiopathic enteritis. Another consideration which should moderate the employment of depletory measures, especially of local or general blood-letting, is the reflection that the patient may have to go through an iliac abscess, and that his powers should be husbanded for its support. The depletion then should be cautious—enemata, and such purgatives as the stomach will bear well should be administered*—light poultices and fomentations are to be applied—and about the fifth or sixth day the bowels may begin to act, and the symptoms to subside.

Should they not subside, the physician or surgeon must anxiously watch for the first appearance of an emphysematous tumor, and make an early incision into it.† Fetid gas escapes, and the cellular tissue is more or less sloughy, or actually sloughing,‡ The patient must now, of course, be supported, and even stimulated, to the necessary pitch.

Two cases are related, but they need not detain us, and we proceed.

B. "It is a fact," says our author, "established by pathological anatomy, that those parts of the intestinal canal where its dimensions vary and its organization changes, are particularly liable to be affected with chronic disease. The cæcum is one of these parts; and in addition to the acute inflammation which has been described, it is not unfrequently the seat of a subacute chronic inflammation or pathological congestion, which induces thickening of its tissues and contraction of its natural capacity, impairing thus the organization and function of the gut, so as to render the action of the bowels irregular and difficult, and eventually to determine a complete and fatal obstruction. This diseased condition of the cæcum may exist for several months or even years, accompanied always with alvine difficulty and sympathetic disturbance of the stomach, of the same character exactly as that which attends stricture of any part of the alimentary canal. The sufferings are similar, the health declines, the body wastes away, and patients die worn down by sickness, inanition, and the dreadful spasmodic pains arising from the violent efforts of the bowel to overcome the obstruction. When emaciation has arrived at a considerable degree, the powerful peristaltic action may be felt, even seen, heaving the abdominal parietes in tracts corresponding with the convolutions of the intestines." 212.

A case is detailed in illustration. The patient was received into Guy's

* Dr. Burne considers one drachm of the sulphate of soda in half an ounce of the infusion of senna, with four drops of the tincture of opium, a good form. In case milder remedies fail, he recommends extract of colocynth six grains, calomel two grains, opium one grain, to be exhibited every six hours.

† Singular as it may appear, it has been a matter of dispute whether the incision should be made early or late. Analogy, every thing is in favour of its being early.

‡ We have in two instances seen artificial anus in the groin ensue.

Hospital, and died there. On Dissection, the cæcum was found to be thickened and much contracted, the colon was empty and contracted too, while the ileum was distended with feculent matter and flatus. It is curious that, in this case, the sigmoid flexure of the colon stretched across the abdomen to the right side, and was united by recent adhesions to the cæcum and the ileum.

In another case, the cæcum was contracted and thickened, its tunics being blended together, and transformed into a dense, opaque, white, unyielding gristly substance: and anteriorly were discovered numerous organized bands covered with a smooth shining membrane, stretching across the channel of the gut from side to side, in various directions, forming an irregular coarse network. In this contracted cæcum and net-work, a complete obstruction had been formed by feculent matter, dry and friable, plugging up the channel in a manner which nothing could have removed. Leading to this part was the ileum, filled with an amazing quantity of soft, yellow homogeneous feculent matter, the bowel itself having all its tunics confounded together, and converted into a dense strong tissue, a line in thickness, resembling thick wet parchment: all trace of villous structure, or *valvulæ conniventes*, having disappeared. In addition, we should observe that the convolutions of the intestines were agglutinated together by soft lymph.

We need not mention the particulars of a case of fecal abscess, consequent on ulcerative perforation of the cæcum.*

c. The appendix cæci vermiformis is, like the cæcum, liable to be diseased.

"The conformation and situation of the appendix," continues Dr. Burne. "vary much in different individuals, a fact not noticed by anatomists, but which I have found to influence the phenomena and nature of its diseases very considerably. The conformation of the appendix is generally described as flexuous and its situation as depending into the pelvis, but by some the situation is not noticed, further than that the appendix arises from the cæcum and is bound down to it on the right by a fold of peritoneum, the meso-appendix; whereas the appendix is more frequently situated on the outer edge of the *psoas magnus* on the *facia iliaca*, snugly curled up beneath the cæcum and concealed by it; a fact which I have verified by many dissections, and one of great importance to the pathologist, as will be seen. In the event of a perforative ulceration of the appendix, and a consequent peritonitis of fecal abscess, the parts involved will differ entirely according to the situation of the appendix. If it should happen to depend into the pelvis, then the pelvic viscera will be implicated; if it should happen to be situated on the iliac fascia and underneath the cæcum, then the belly of the *iliacus internus* and the neighbouring adipose cellular tissue will be involved, and the course of the abscess be determined accordingly: so important is the relative anatomy of even inconsiderable organs to the physician. In a case to be related where the abscess pointed in the loins, the whole belly of the *iliacus internus* was in a state of gangrene, as was also the mass of adipose

* Mr. Henry James Johnson has published a curious and interesting case in which the following circumstances occurred. Thickening and ulceration of the cæcum, ended in perforation of it. Its contents partially escaped into the iliac fossa. Then the pus gradually found its way by a sinuous passage in the cellular tissue between the transversalis muscle and the peritoneum to the bladder—a small ulcerated aperture occurred in its anterior wall—a little pus escaping into its cavity rendered the urine albuminous—excessive irritability of the bladder was established—and, apparently worn out by this, the patient died.

tissue in the lumbar region; the abscess was here making its way to the outer margin of the quadratus lumborum muscle, the part where the parietes offer least resistance to its progress." 220.

Foreign substances may pass from the cæcum to the appendix, and lodge there. If small they may excite no irritation at all, or ulceration of the mucous membrane only. But if, from their size, or from any other cause, the peritoneal coat is involved, it is obvious that formidable or fatal peritonitis may follow; or if the surrounding inflammation is circumscribed, a limited abscess may ensue. This may come forward, burst and discharge itself—or it may remain stationary, and occasion serious or fatal irritation of the system—or, it may burst into the cæcum.

Dr. Burne details three cases which will repay the perusal of those who will consult them in the original paper. The paper itself is an useful one. It systematises our knowledge of the primary affections of the cæcum, and of their secondary consequences, and we have given a full account of it because we deem it valuable. As we previously observed, Dr. Burne is a diligent pathologist, and an observant physician.

III. AFFECTIONS OF THE HEART AND ARTERIES.

1. *Remarkable Case of Varicose Aneurism. By John George Perry, Surgeon to the Foundling Hospital, and to the St Marylebone Infirmary.**

By varicose aneurysm is meant a communication by means of an intervening aneurysmal sac, between an arterial and venous trunk, the blood of the former passing through the sac into the latter. The communication in question has hitherto been regarded as necessarily the result of a wound, there being no recorded case in which it took place as a consequence of ulceration. But the following is such a case.

Case. J. Allum, æt. 47, had been discharged from the Dragoons, in 1819, on account of ill health. Prior to this, he had been knocked down and his left knee had been hurt. In 1831, being at that time employed in drawing a truck, he suffered for several months from pain in the foot, at its inner side, and matter formed, and was discharged from that part. Sometime in the course of the same year he first perceived a small swelling a little below his left knee, but it gave him no pain and he disregarded it. The swelling increased very slowly in size and troubled him very little, that he could recollect, for two or three years, except that occasionally, when drawing his truck, he was seized with pain in it to such degree as to be obliged to stop for a few minutes from his work. In 1833, his wife accidentally perceived a "palpitation" in the middle of his left thigh; He was subject at the same time to palpitation of the heart. The former increased, the inner side of the foot and great toe became again extremely painful, and on the 6th of February, 1834, the patient was admitted into the Marylebone Infirmary.

"Upon examination soon after his admission, an aneurismal tumour of con-

* Med. Chir. Transactions.

siderable size was discovered at the upper part and inner side of the calf of the left leg, apparently occupying the lower end of the popliteal, or the commencement of the posterior tibial artery. The contents of the sac were so entirely fluid, that it could be almost emptied by pressure, with the hand, maintained for a few minutes. Pulsation could be felt distinctly in the anterior tibial artery as it passed over the tarsus, and obscurely in the posterior tibial, behind the internal malleolus.

As the patient lay on his bed with the limb placed on its outer side, a very remarkable pulsation could be distinctly *seen* along the course of the femoral artery and vein throughout the greater part of the upper two-thirds of the thigh, beginning about two inches below the crural arch, and terminating at the spot where the femoral vessels become included in the tendinous sheath formed by the triceps muscle. When the hand was laid upon any part of this region a very peculiar thrilling was perceived, occupying a space of at least two inches on either side of the vessels, but varying in intensity and force according to the distance of the part examined from them. I know not how to describe the sensation communicated to the hand better than by borrowing a simile from Laennec, who, in describing the sounds attendant on a contracted state of the left auriculo-ventricular opening, says 'on sent quelquefois à la main un frémissement analogue à celui qui accompagne le murmure de satisfaction que font entendre les chats, lorsqu'on leur passe la main sur le dos.' This purring (to adopt his phrase) was quite distinguishable from the pulsation of the artery; for while the latter was lost in the intervals corresponding to the diastole of the heart, the former continued to be felt without intermission, deriving only renewed intensity from the repetition of the heart's action." 35.

Much difference of opinion existed, on the cause of the phenomenon. In one of the examinations made by Mr. Perry, he accidentally discovered that pressure with the finger upon a part of the artery, immediately before it entered the sheath of the triceps, immediately stopped the purring, without interrupting the circulation through the vessel. This suggested the idea of a communication between the artery and vein, but the patient denied the previous occurrence of any wound that could occasion one.

The diseased state of the vessels precluded, in the opinion of all, an operation. Pressure, in various ways, was accordingly tried, but occasioned too much uneasiness to be borne. After remaining nine months in the infirmary, the patient quitted it. On the 22d of July, 1835, Mr. Perry examined the limb with care. The purring was then not perceptible for more than an inch on either side of the sheath of the vessels, neither could it be *seen*, as before; but required for its discovery that the hand should be applied to the surface. The superficial veins of the leg had become remarkably enlarged.

"I may be permitted here to anticipate the subsequent details of the case, so far as to say that these changes were sufficiently explained on dissection by the obliteration which was found to have been brought about in the vein, probably by the long continued pressure, and which, by diminishing the bulk of the circulating contents of the vessel, rendered that remarkable *bruissement* less obvious than before. The obliteration of the femoral veins also accounted for the enlargement of the superficial veins." 38.

On the evening of the 9th of September, 1835, the patient applied to be re-admitted, on account of great and sudden enlargement of the tumor, which had taken place a few days before, and had been preceded by much pain and throbbing.

On his admission the tumor was found enlarged to three or four times its former size, and upon the point of bursting. Under these circumstances, the femoral artery was tied on the following day, in the usual situation. The artery was nearly the size of the abdominal aorta, and its coats so thin that it looked like a vein. Much difficulty being experienced in carrying the point of the needle round the artery, apparently from adhesion at its back part, and its extreme tenuity rendering it very hazardous to employ any degree of force, it was deemed advisable to enlarge the opening in the sheath, and pass the ligature about half an inch higher up, which was effected without any difficulty. So attenuated and fragile were the coats of the vessels, that they actually gave way under the slight pressure made by the fingers of a gentleman, who held it with the view of assisting in the passage of the needle under it, and blood issued in a minute jet from its anterior surface. This accident made it necessary to observe the greatest caution in tightening the ligature, as it seemed not improbable that if drawn with ordinary force, it would completely divide the artery. The noose was therefore only drawn to a sufficient degree to stop the pulsation in the sac and lower portion of the artery, and as the bleeding from the small laceration before described immediately ceased, it was deemed that enough had been accomplished to stop the circulation through the vessel, and the wound having been closed by straps of adhesive plaster, the patient was carried back to bed. The vein was not seen during the operation, being completely concealed by the enormous dilatation of the artery.

In the night of the 15th, there was profuse hæmorrhage from the wound, succeeded by syncope. Next day, the hæmorrhage recurred, and, on the sixth day after the operation, the patient died.

Dissection. Passing over less important particulars, we may note—the pericardium universally adherent to the heart—the right auricle large—the left ventricle hypertrophied and dilated.

Much atheromatous, and one spiculum of bony matter, in the coats of the aorta at its arch. This was much dilated at the origin of the arteria innominata, which was unusually large. The abdominal aorta was rather thin in its coats.

“The external iliac arteries, especially the left, were extremely tortuous, being reflected upon themselves in a singular manner, during their course towards the crural arch: a condition which had, no doubt, given rise to the impression of the artery being extremely dilated, since it conveyed to the hand simultaneously the combined pulsations of the folded portions.

The coats of the femoral artery, throughout its whole course, were scarcely, if at all, thicker than those of a vein, the attenuation having, as careful dissection afterwards proved, taken place equally in all its coats. Immediately below the origin of the profunda the vessel was greatly dilated, having the appearance of an aneurismal sac. Its coats were here softened and much attenuated, and presented an aperture anteriorly, large enough to admit the point of the ring-finger, from which the fatal hæmorrhage had taken place. The ligature had been placed at a very short distance below this part of the vessel. The wound was full of coagulum, which had also made its way into the sartorius and surrounding muscles, and by its pressure had probably restrained the hæmorrhage so as to prevent the patient from bleeding to death at its first access.

At the spot in the thigh where the communication had been presumed to exist between the artery and vein, there was an aneurismal sac, about as large

as half a walnut, firmly ossified within, which, by the pressure it had exerted upon the vein, had caused absorption of its coats, so as to form a circular opening of about two lines in diameter, into which the aneurism had burst,—thus inducing a free and persistent communication between the vessels. Just below the aperture the vein was obliterated at a single point, below which it was again pervious. In all the rest of its course up the thigh it was diminished in size and thickened.

The changes above described, which took place in the limb between the time of the patient quitting the Infirmary and his re-admission, leave no room to doubt that the obliteration of the vein was accomplished in that interval, by the use of the spring, which effectually compressed the vessel under the bony walls of the aneurism.

At the lower part of the popliteal artery, exactly at the point of division into the anterior and posterior tibial trunks, the vessel was dilated into a very large aneurismal sac, which contained a small quantity of laminated fibrine; but the greater part of its contents consisted of loose coagula and serum. The tibia formed a part of the walls of the sac, and was partly absorbed, so as to present a scabrous surface. The posterior tibial artery opened from the sac, as the popliteal had opened into it, by a circular and even orifice. The anterior tibial could not be examined, as it was sacrificed in separating the tumour from the tibia," 43.

There can be no doubt that the infrequency of such communications between an artery and vein, arises from the disposition of the latter to take on the adhesive inflammation, and to become obliterated by pressure.

2 *Remarks on two Forms of Atrophy of the Heart's Valves, which interfere with their Function; founded on a Series of Cases. By Peter Nugent Kingston, M.D., Physician to the St. George's and St. James's Dispensary.*

Those who have the pleasure of Dr. Kingston's acquaintance are well aware that he is a zealous cultivator of pathological anatomy. They will receive his descriptions of morbid changes with confidence, as few take more pains to examine minutely the data for their pathological opinions.

A. *Anatomical Characters.*

a. "The lesion may be defined a simple shortening of the heart's mitral or tricuspid valve, without any diminution of its natural thinness, pliancy and transparency; the orifice to which it belongs possessing at least the ordinary calibre. In other words, it is an atrophy of the valve in the direction of its length. The extent to which the valve is thus wasted is often considerable. Thus the length of the posterior lamina of the mitral valve which is naturally from seven to nine lines, was in one case reduced to three lines; in another it no where exceeded a line and a half, and was for the most part only a line. The laminae of the tricuspid valve are naturally from eight to eleven lines in length: but in one of my cases they all three fell very short of this, and one was only three lines. The valves in question are generally thinner than is natural: but as attenuation does not interfere with the fulfilment of their function, it does not of itself constitute disease." 91.

b. Another lesion of the cardiac valves is nearly allied in nature and effects to the preceding. The continuity of a valve, so affected, says Dr. Kingston, is interrupted by apertures, sometimes of large size, and sometimes so numerous as to reduce the structure to a mere net-work, while the

remainder is in a state of attenuation which is here and there often extreme, especially towards the edges of the aperture. Sometimes a large gap is seen subdivided only by a few thready fibres. These, in the case of the auriculo-ventricular valves, are generally prolongations from the chordæ tendineæ. In four of the cases which Dr. K. has seen within the last three years the lesion had gone to a sufficient extent to have materially interfered with the valve's function. Lænnec and Dr. Corrigan have both alluded to this affection.

c. It now and then happens that valves which have become thickened and indurated in various ways are shortened or cribriform. In a case cited by Burns on the authority of a friend, it is said, "The mitral valve was indurated and reticulated." In a case which occurred to Dr. Kingston, (that of a waiter aged 27, who had had several attacks of acute articular rheumatism,) the posterior lamina of the mitral valve was yellow, opaque, much shortened, and the sixth of an inch in thickness. The adjacent portion of the inner membrane of the left auricle for the extent of about two inches, was much thickened and corrugated, opaque, and nearly the same hue as the valve. The whole heart was dilated and hypertrophous; the left auricle had twice the capacity of the right.

B. Comparative frequency.

"That these are far from being rare lesions in comparison with the others to which the heart's valves are subject, may be inferred from the circumstance that out of about thirty fatal cases of diseased valves of which I took notes during a definite period, one or other of these species of atrophy existed in ten. The mitral valve was shortened in five, the tricuspid in five, both in two. In one the mitral valve was cribriform, in two the tricuspid, and in one both the aortic and pulmonary valves were so." 94.

Dr. Kingston accounts, in a satisfactory manner for the lesions being overlooked. They are such as would not strike the eye unless the valves were very minutely examined,

c. Functional Effects and Diagnostic Signs.

A valve which has become shortened or cribriform, is, of course, incompetent to close completely the orifice to which it belongs, and consequently permits regurgitation. Such regurgitation must be in the ratio of the deficiency of the valve.

The effects of such regurgitation need scarcely be insisted on, as they must correspond with those which result from regurgitation from other causes.

"In all the cases in which the circumstances are fully detailed, there had been anasarca and palpitations; and in all but one, dilatation of some cavity posterior to the affected valve. In all in which the valves of the left side were defective there had been dyspnoea and cough, pulmonary congestion and inflammations; the radial pulse and the præcordial impulse were frequently irregular and unequal; and out of the only four of these cases in which the history is sufficiently known, one patient was very subject to attacks of faintness and debility, another to vertigo and epileptic fits, a third died in a fit of syncope, and the fourth, after total sleeplessness for a fortnight, sunk into a state of coma, which was fatal in a few hours. Where the defect lay in the mitral valve, the pulse at the wrist, compared with the beat at the heart, was generally small and weak; and where in the tricuspid, there was distention, sometimes attended with pulsation of the external

jugular veins ; in these cases, at least, in which they were examined. In several, the symptoms could not have been fully accounted for, had these valvular lesions been overlooked." 98.

Dr. Kingston is satisfied, from his stethoscopic examinations, that a bel-lows sound is often produced by the reflex of blood through the affected valve.

d. Mode of Production and Causes

Dr. Kingston contends, and no doubt with justice, that these affections of the valves more commonly occur at a more or less considerable period after birth. The apertures in the valves he attributes to progressive absorption—the diminution of length to a similar process.

The remote causes of the shortening of the mitral and tricuspid valves are considered by Dr. Kingston to be essentially two—pressure, and a deficiency of nutritive action or power in the valve.

"In nine out of the ten instances in which the mitral or tricuspid valve was shortened, there was hypertrophy of the corresponding ventricle, which is in general preceded as well as attended by an increased force of the heart's contraction. In several, there was likewise obstruction to the discharge of the blood from the hypertrophous ventricle. In most, the patients had followed laborious occupations ; and two traced their complaints in a great measure to over-exertion.

In these nine instances, therefore, the blood's impulse against the valve affected had been permanently increased, and the valve had hence been subjected to an unnatural degree of pressure, an agent very frequently observed to occasion the atrophy of almost every tissue and organ in the body." 131.

The causes of the cribriform atrophy next occupy our author.

"Of this there were five cases, in one of which the pulmonary and aortic valves were both affected : in two the auriculo-ventricular valve was shortened as well as cribriform.

One of these patients had been very subject to gout and to precordial palpitations ; and two had had several attacks of acute articular rheumatism, attended with well-marked symptoms of inflammation of the heart ; and after death exhibited old adhesions of the pericardium, and disease of some of the valves similar to that which is known to be consequent on rheumatic affection of the valves." 107.

Dr. Kingston hypothetically asks if gout or rheumatism could so impair the nutritive powers of a part, as to cause it to be absorbed under ordinary pressure ? This question he analogically answers in the affirmative.

In the remaining two of the five cases, the cribriform atrophy was referable to the causes which have been assigned for the shortening ; namely, to an undue force of the blood's impulse, combined with debility of the valves' nutritive powers from previous disease. The first circumstance was proved in both by hypertrophy of the corresponding ventricle, and obstruction to the discharge of its blood : the second was in both rendered probable by marks of chronic disease of the heart's valves in other places.

e. Prevention and Treatment and other Practical Bearings.

On these points it must be owned that there is not much to be said, and that what there is must be obvious from general considerations.

The great point is to avoid the general causes of cardiac disease—anxiety of mind, inordinate exertion of body, the metastasis of gout and rheumatism. The next point is to detect the lesion *if* we can. The third point is, to treat the case according to the symptoms, but with a view to these affections. The general principles on which diseases of the heart are to be managed, do not require especial notice here.

The paper of Dr. Kingston is one of interest to the pathologist. The mere practitioner will not see in it much to arrest his attention. But such papers are of value to science.

IV. AFFECTIONS OF THE LUNGS, &c.

1. *Case of Diaphragmatic Hernia.* By William Norris, M.D. of Stourbridge.*

Thomas Smith, aged 19, has, from childhood, complained of pain in the left side of the chest, and sometimes of slight cough, and difficulty of breathing; has looked sallow and thin, with the appetite rather deficient, and generally has had an excess of thirst; and for the last two years he has not been able to lie on the right side; but his sufferings have been so slight, that they never precluded him from following his occupations for a single day. Nearly two years ago he had a wrestling fight, after which, the pain increased for a short time, attended with sickness; but these symptoms disappeared in a short time. For nearly three years he has been a gentleman's servant. About seven weeks before his death he walked eighteen miles on one evening with ease.

It was last Summer when Dr. Norris was requested to visit him. He complained of pain over the whole abdomen, particularly in the left hypochondriac region, and in this situation the pain was much increased on pressure: there was considerable distention; and frequently vomiting of a porraceous matter, similar to the secretion from the stomach of a patient labouring under painters' colic; with much turning and tossing in the bed. Tongue covered with a whitish brown fur; no alvine evacuation for four days excepting a few scybala; pulse 130, and soft; thirst excessive; countenance full of anxiety and sufferings; respiration rather hurried, but not laborious. The bowels were often very torpid: early that morning he had taken a dose of salts, which had operated freely. Could assign no cause for his complaints: he had been gathering moss that same morning, and had climbed up a very steep hill, carrying a load of the moss upon his shoulders, and in the evening he was suddenly attacked with pain. He had been twice bled; blood not buffed, nor cupped; and had taken a variety of cathartics.

It was on the fourth day of the attack that Dr. Norris saw him, Mr. Granes, a surgeon, of Clent, having treated the case previously. Dr. N. looked on the case as one of mechanical obstruction, and suspected that it might be diaphragmatic hernia. Powerful cathartics, the cold dash, bleeding, were all tried, but unsuccessfully. The symptoms grew worse and worse, and on next morning at eight o'clock the patient died.

* Provincial Transactions.

Dissection. On opening the abdomen, which was greatly distended, the omentum was not to be seen; all the bowels were filled with flatus, and in different stages of inflammation, varying from a tinted redness to a lurid hue; and small patches of sphacelus were commencing on the large intestines. On pushing the fingers downwards, the descending arch of the colon, and the pancreas were not to be found in the abdominal cavity; and on opening the thorax there was discovered a large knuckle of intestine, eight or ten inches in length, in the left cavity, which had dragged with it the greatest part of the omentum, and the whole of the pancreas. The lung had lost its natural structure, and more resembled spleen; and was condensed into the size of a man's fist. An aperture was discovered in the left portion of the diaphragm, near the vertebra, more than an inch in diameter. The bowel had contracted firm adhesions to the neck of this aperture. The omentum and pancreas were much thickened. The strangulated portion of bowel was of a mulberry tint, resembling bowel in the last stage of strangulated hernia, but the coats were much indurated, evidently showing the prolapsus to be of no recent date. There was more than a quart of very turbid fluid in the left cavity of the chest. The descending colon was much contracted and empty. The right lung appeared quite healthy. The pulsation of the heart had been felt to the right side of the chest; the heart having been forced from its natural situation to the upper part of the left cavity of the thorax.

Cases of diaphragmatic hernia, though not very uncommon, are sufficiently so, to render any which occur worthy of being placed on permanent record.

2. *Dissection of a Case in which one Lung had formerly been much compressed by fluid effusion.*

In the Provincial Transactions, there is a paper by Mr. Windsor, surgeon to the Manchester Eye Institution, on the Effects of Chronic Pleuritis, from which we extract the following notes of a dissection. We extract them because they shew the actual condition of the parts, long after a pleuritic effusion has been absorbed.

An eminent artist, of Manchester died at about the age of 28, and the examination of his body took place on the 14th of January, 1832. He had always been an invalid, at least from the time of having the measles, when very young; and had suffered much from pectoral complaints, as coughs, dyspnoea, &c; his heart beat on the right side; he had latterly, also been œdematous in the lower extremities. He was of short stature, rather emaciated, and a little deformed; the dorsal vertebræ inclining a little to the right side.

Dissection. There was scarcely any effusion in either pleura, but considerable adhesions on both sides. On the left side a light spongy cellular texture intervened between the ribs, and the pleura covering the lung and the pericardium; it was of considerable thickness and occupying a considerable space. The lung itself was void of crepitus, of small extent, being compressed against the posterior part of the thorax, and altogether carnified. The pericardium contained a little bloody serum, perhaps an ounce. The heart appeared of natural size; its right side, especially the right auricle, the cava superior and subclavian veins were distended with blood; the in-

ternal structure of the heart was pretty natural, the base of it was situated on the right side, the apex pointing sinistrad, reached just the mesial line. The internal membrane of the respiratory canal throughout was considerably injected.

No doubt, there had formerly been considerable fluid effusion in the left pleural cavity—the fluid had been gradually absorbed—the lymph had been converted into cellular tissue; the lung first compressed, had then, from that compression became carnified. The other lung only being employed in respiration, explained the dyspnœa. The immediate cause of death would seem to have been bronchitis.

3. *Researches on Some Points of the Pathology of Pulmonary Tubercles* By Peter Nugent Kingston, M. D., &c.

Dr. Kingston observes, with truth, that it is an object of no small importance to perfect our acquaintance with the pathology of pulmonary tubercle. He endeavours, in this paper to shew;—1st, that the common pulmonary tubercle, is a vascular texture: 2dly, that it sometimes originates in an alteration of the air-cells and their secretions; and 3dly, that now and then it is entirely healed, when it has even extended over a very large portion of the lungs.

A. Tubercles have been concluded to be unorganized because they have not been, and could not be, injected. Dr. Kingston adduces many arguments to show that this is no proof of absolute want of organization. This may be granted, and if there are any circumstances which tend to establish the existence of organization, the incapability of receiving injections would certainly not invalidate the inferences that might be drawn from them.

The proofs of the organization of tubercle adduced by Dr. Kingston are the following:

“Having shown the invalidity of the evidence adduced to prove the non-vascularity of pulmonary tubercles, I proceed to give an account of seven cases in which great numbers of pulmonary tubercles of the ordinary kind were distinctly seen to be traversed by red vessels.

They had not in their symptoms differed from the generality of cases in which tubercles have been found in the lungs after death. Cough, dyspnœa, pain of chest, night-sweating, diarrhœa, emaciation, had most of them been present in all. The subjects were of all ages, 7, 15, 21, 26, 42, 61, 65. In each, the lungs presented every stage of tuberculous disease. In some places there were transparent or semi-transparent, colourless or whitish bodies, many of them rounded or oblong, varying in size from that of a grain of sand to that of a hemp-seed, from cartilaginous to fleshy firmness. In other places, the bodies were nearly or altogether opaque, and of a whiter or yellowish hue; some were firm, others softened or quite liquid. Excavations had been formed, principally at the apices of the superior lobes. In two of the cases the tuberculation had for the most part assumed the form which has been termed infiltration.

In every one of these cases a great number of the isolated solid tubercles, both such as were white or yellowish and opaque, and such as were greyish and translucent, presented the following appearances: A careful section being made of the tubercle intended for examination, the cut surface was seen by a strong magnifying glass, sometimes also with the naked eye, to be traversed by continuous red lines, which were sometimes short and unconnected, but often of considerable length and making frequent ramifications and anastomoses,

quite after the manner of small bloodvessels. An intelligent friend, to whom I shewed the appearance, compared it to the arrangement of vessels in an inflamed conjunctiva. On several trials we found that these red lines could not be removed by being gently scraped with the edge of the scalpel. In many instances they might be traced from the centre to the circumference of the tubercles, whence they were sometimes seen to extend into the adjacent pulmonary parenchyma, or to communicate with the vessels in the neighbourhood. There is no room for doubt that these red lines were bloodvessels; for such an appearance, when exhibited by solid parts, has always been considered decisively characteristic of vascularity.

In each case the number of tubercles in which red lines were visible was very great. When the portion of lung had grown stale by keeping, then, along with the red lines, there were some of a brownish red colour, and others which were dark-brown, or quite black. In all there were many tubercles in which no vascular appearance whatever was discernible. But it frequently happened that the pulmonary parenchyma, for a considerable distance around, was equally destitute of the appearance of red vessels. Indeed it may be observed of every tissue and organ in the body, that after death its vessels are sometimes filled with red blood, at other times empty, and that some parts are reddened, while others remain pale.

Whether those tubercles in which no vessels were to be seen after death were furnished with red blood during life, may therefore be questioned. But nutrient vessels of some kind must be conceded to them. For how can it be supposed that, agreeing in all other physical characters with those in which red vessels were visible, they differed so fundamentally as to be destitute of organization? The same may be said of several cases of pulmonary tubercles, in none of which I could find vessels containing red blood." 311.

This must be admitted to be fair evidence. It is corroborated by the written statements of Dr. A. J. Sutherland, to whom Dr. Kingston shewed several of the tubercles, and who expresses his entire belief in their vascularity. It is difficult to suppose that all this was accidental, or that Nature should do in one case what she is not in the habit of doing in others. And as the organization of tubercles tallies better with the changes which occur in them, than does the supposition that they are not organized, we may suppose that the facts described by Dr. Kingston are not illusions or exceptions to the common order of things.

B. The site of tubercles has been a matter of discussion. While some have placed them in the intervesicular cellular structure of the lung, others, and those the majority of the best pathologists, have either contended or have been inclined to believe that their real seat is the air-cells.

Dr. Kingston not only adheres to the latter opinion, but offers the following hypothesis of the mode of origin of, at least, one species of tubercle.

"In October, 1834, I witnessed the inspection of a subject whose lungs presented the following appearances. In the upper lobe of the right lung were several tough, grey capsules. Some of these were filled with matter which, at the circumference, was very tough, black, and opaque; but at the centre, partly of a black, partly of a dirty-white colour, opaque, of a caseous softness, in some places minutely granular, held together by cellular substance. Other capsules were filled altogether with the soft matter last described. At the roots of the lungs were some similar masses, and also several capsules enclosing hard earthy nodules. One of the latter, however, had perforated both its cyst and the parietes of a large adjacent bronchus, and was projecting naked into its

cavity. Very thickly disseminated through both lungs, were bodies considered by all present to be incipient tubercles. They were in general of a somewhat rounded or oval form, from the size of a grain of sand to that of a mustard-seed, some transparent and colourless, others whitish and semi-opaque; they felt hard and quite distinct from the adjacent pulmonary structure, as the finger was passed over them. On further examination, I found that each of these bodies consisted of a tough, nearly transparent cyst, filled with fluid, which in some was white, semi-opaque, thick and viscid, in others was thinner, transparent, and colourless. The neighbouring bronchi were filled with mucus of similar appearance, and in several instances a minute bronchus so filled could, on dissection, be distinctly seen to terminate in one of these vesicles. The bronchial mucous membrane in these parts was thickened; in some places white and semi-opaque, in others reddened and softened.

There could be no doubt that the tuberculoid bodies were continuous with the bronchi, were portions of the air-passages: and thence I learnt that the terminations of the air-passages, the air-cells as they are termed, are liable to become thickened, dilated, and filled with thick mucus, and that they then assume an appearance nearly resembling that of tubercles both to the eye and to the touch." 320.

Supposing the cavities of these thickened vesicles obliterated, either by solidification of their contents, or by thickening of their parietes, they would appear or be identical with miliary tubercles. Dr. Kingston offers several reasons for concluding that such changes are consistent with what we know to take place in the body, and he clenches the argument of analogy with one of fact. He states that, in two cases, the chain of proof was complete, and all the following particulars were presented.

1. Excavations, principally at the apices of the lobes, of the ordinary appearance of those which accompany tubercles.

2. White or yellowish, opaque or nearly opaque bodies, appearing in the section of the lung to have a somewhat rounded or oblong form, some nearly liquid, others of various degrees of firmness up to that of the pancreas.

3. Firm bodies differing from the latter only in having less colour and more translucency: many of those which at the circumference were very translucent and nearly colourless, having in the centre a small, yellow, opaque speck: others having a whiteness and tendency to opacity, slight towards the circumference, gradually increasing towards the centre. Some of these bodies, upon a minute examination, were found to be cylinders with a bulbous extremity, containing in some instances a yellow, opaque particle.

4. Bodies which did not to the eye differ from the preceding, some being nearly colourless and very translucent throughout, others of a whiteness and opacity gradually increasing towards the centre, the greater number of a somewhat rounded or oblong form: feeling hard also as the finger was passed over them while they lay in the lung. Upon a careful examination it was found that these consisted of membranes of various thickness, of a white or greyish colour, filled with colourless or whitish, translucent, very viscid fluid, having all the appearance of mucus: and in numerous instances it was observed that the adjacent bronchi were filled with mucus of the same appearance. Minute bronchi distended with this mucus could often be seen proceeding for a considerable distance, and, at last terminating in one of the vesicles filled with a similar fluid. There could, therefore, be

no doubt that the vesicles were portions of bronchi, or of the cells in which they terminate, greatly distended with mucous. Particles of yellow, opaque, friable matter were, in some instances, contained in the fluid which exuded from the vesicles. Some of these bodies, which at first had the appearance of being single vesicles, were, on a closer scrutiny, discovered to be clusters of smaller ones.

5. Bodies forming a transition between the third and fourth groups: in which the central cavity filled with mucous still remained, but had been greatly diminished by the concentric thickening of the parietes. These bodies, likewise, were in several instances much elongated, having all the appearance of minute bronchi thickened.

He does not therefore doubt that the vesicles and solid tubercles were different stages of the same disease, nor that they equally consisted in an alteration of the minute air-passages, which at first became somewhat thickened and distended with their secretions, and were at last totally solidified, partly by the concentric thickening of their parietes and partly by inspissation of their contents.

c. The possibility of the cure of consumption, after ulceration has taken place, has been a subject of anxious speculation. The best pathologists and most experienced physicians admit that, when tubercles are limited to a small part of the lung, cicatrization of a vomica may now and then occur. But in the following case, the disorganization had gone to an extent which, in the opinion of most men, would render recovery impossible.

Case. A coachman, aged 49, was admitted into St. George's Hospital in August, 1834, for a wound on the calf from the kick of a horse. He was cured in four months. He made no complaint of his chest to the surgeon, but the following particulars were ascertained from the nurse. He had an occasional severe fit of coughing, with some expectoration in foggy weather, but was often not heard to cough for many days together: never complained of pain at the chest, palpitations or dyspnoea, but was observed, while speaking, to take breath rather oftener than was natural: never required to be propped up in bed, lay generally on the left side, though sometimes on the right and sometimes on the back; was angry when once it was hinted that he was asthmatic. He did not sweat at night: required rather more than the usual allowance of bedclothes to keep him warm. He eat the whole of the ordinary diet" with apparent appetite: used to be dressed and sitting up the greater part of the day, and for sometime before he left the hospital could walk three or four miles without any fatigue or any ill effect.

In the beginning of January he was discharged cured. A few days afterwards he was drenched by a shower, and was taken back to the hospital with symptoms of inflammation of the kidneys. Headache, delirium, and symptoms of effusion on the brain supervened, and on the twelfth day of this last attack, he died. He never made the least complaint of his chest.

Dissection. There was a good quantity of fat. The lower extremities were rather œdematous. Much serous effusion on the brain. Inflammation of the kidneys and bladder, the prostate gland containing pus. A few small ulcerations in the colon.

Lungs. "The left lung was loosely connected to the ribs and pericardium by a tough net-work containing a layer of fat from half to three quarters of an

inch in thickness, and many inches in extent. The lung when separated from this was not larger than a moderate orange flattened; it had the breadth of the palm of the hand. The whole of the upper and part of the lower lobe was covered with a thick, reddish ligamentous membrane, from a line to a line and a half in thickness.

The lung had totally lost its natural sponginess, and was irregularly hardened. The upper lobe was entirely converted into a large excavation, with the exception of a rind which was in general from half a line to a line and a half in thickness, and no where exceeded three lines. This excavation was capable of holding above a quarter of a pint of fluid: it was slightly divided into three compartments by intersecting bands of pulmonary substance. In the lower lobe were two cavities of the size of small plums, and there were about a dozen as large as unshelled filberts, communicating with the former, some by large, others by small apertures. They were in some places within a line of the pleura, but in no place were they in contact with it. There was about twice as much of the lower lobe remaining as of the upper: they were separated from each other by a tough, somewhat vascular, fibro-cartilaginous tissue, which in some places was nearly half an inch thick.

All these excavations and the bands which traversed them were lined with membrane which was smooth, thicker than the mucous membrane of the bronchi semi-transparent, generally whitish, but in some instances reddish having the firmness in some places of mucous, in others of fibrous membrane. Here and there were whitish or black elevated points, generally covered by the inner membrane. Underneath there was generally a second membrane, which was whitish, fibro-cartilaginous, of the thickness of writing paper: but in a few places it was not very distinct from the tissue external to it. I observed the mouths of several large bronchi, some of the diameter of writing quills, opening into the excavations nearly at right angles with their surface, so as to have the appearance of being cut short off. Their mucous membrane was gradually lost at the edge of the excavation. At the mouth of one of the bronchi was a relic of one of the corroded cartilages, making a pointed projection into the cavity of the excavation.

One or two of the minor excavations were partially occupied by solid, but friable, granular, nearly opaque masses, which did not adhere to the surface of the excavations, and were evidently the residue of old tuberculous secretion, of which the fluid particles had been absorbed. The other excavations contained nothing but a slight mucous exudation; no puriform or tuberculous matter whatever.

What remained of the pulmonary structure of this lung was totally destitute of air, very tough, flabby, of grey or reddish brown colour. Each lobe contained six or eight tough, whitish, translucent capsules, of the size of pins' heads, filled with opaque, yellowish, minutely granular, dry matter, held together by cellular threads. There was also a small ramifying tube filled with the same matter. The bronchi and blood-vessels were generally much shrunk. The bronchi were lined with a reddish mucous, and their inner membrane was slightly reddened, and softened. A portion of one was dilated to four times the natural calibre; its lining membrane was similar to the rest, except that it was more reddened, and here and there gathered up into transverse ridges, very characteristic of bronchial dilatations.

At the right side of the chest the pleuræ were in a few places adherent by tough membrane, which at the edge of the lower lobe, contained a mass of fat. The condition of the right lung differed widely from that of the left. It was larger than is usual. It contained no excavations whatever. About three fourths were perfectly healthy, except that a good many of the air-cells were enlarged. The remaining fourth was taken up with solid masses, disseminated in considerable numbers through the upper and middle lobes, very sparingly through the

lower one. Their size varied from that of a mustard-seed, to that of a filbert. There was one whitish, semi-transparent, firm tubercle of the size of a mustard-seed, which appeared to be contained in the thickened dilated extremity of a bronchus. A great many consisted of capsules filled with matter of different appearances. Their contents were in a few instances a congeries of granules, of the size of millet-seeds, of caseous consistence, generally yellow and opaque, but in one or two instances translucent and whitish, here and there appearing to be connected by a cellular web. In several instances their contents consisted partly of these yellow granules, and partly of harder black matter. Then there were five or six pea-sized capsules, filled entirely with black matter, of considerably more than caseous hardness. But the lung was still more thickly strewed with roundish black masses, some of woody hardness, without any investing membrane. One cyst contained a white, hard calculus. The pulmonary tissue around these masses was crepitating, and in all respects healthy. Some of the bronchi of this lung contained a whitish or reddish viscid mucus: and the cartilages at the divisions of some of the small bronchi were much thickened." 332.

This must be regarded as a very interesting and valuable case. It demonstrates, so satisfactorily that it is not necessary to dwell on its distinctive features, the cure of extensive tuberculation, and such a demonstration must greatly assist the practical physician in his attempts to succour those who are labouring under phthisis pulmonalis.

In conclusion, we agree cordially with Dr. Kingston in this sentiment:—that it is not unlikely that the proportion of cases in which pulmonary tubercles are actually cured, is many times greater than the proportion in which the cure has been demonstrated. We hope that Dr. Kingston will continue to labour with the assiduity he has now evinced in the field of pathological anatomy.

4. *Observations on the Diagnosis of Pneumonia.* By Dr. Addison.*

The main object of Dr. Addison's paper, and its modesty and utility combine to render apology needless, is to make some addition, however trifling, to the ordinary means of diagnosis of pneumŏnia—a complaint too frequently and too fatally overlooked.

A. The first point on which Dr. Addison offers a remark of any novelty or consequence, is the mode of origin of tubercles and of tubercular infiltration.

He observes that when, in cases of pneumonia, the albuminous matter thrown out in the air-cells is of a more than usually plastic or organizable kind, it is not entirely absorbed, but a portion of it permanently remains. At an after-period, it is found in small, detached, and more or less rounded masses, and receives the term of tubercles—a term which Dr. Addison thinks far too indiscriminately applied;—or, it is more extensively and irregularly diffused, when it is regarded as a form of tubercular infiltration.

There can be little doubt, that Dr. Addison is right in these sentiments. He does not mean, of course, that tubercles have commonly this origin, or that tubercular infiltration is always to be referred to this source. But the

experiments of Cruveilhier and of others have shewn decisively that ordinary inflammation will give rise to tubercles, or to what may be regarded as such. The object of Dr. Addison's remark, is evidently to recommend greater strictness in the application of the terms, tubercle and tubercular infiltration. It is well to recollect that in common use, and parlance they represent different forms of deposition.

b. But the main intention of our author is to elucidate the diagnosis of pneumonia.

He refers, in the first instance to the symptoms enumerated by Laennec as characteristic of the disease. They are, an *obtuse and deep-seated pain in the chest, dyspnœa, hurried respiration, cough, and peculiar expectoration*: but, in reference to these, Laennec also tells us, that each of them individually may occasionally be absent, and, indeed, that they may all be absent in the same case.

Dr. Addison contends that these symptoms are by no means so universally characteristic of pneumonia, as Laennec's description would imply, and that the exceptions are extremely frequent, and occur at every period of life, and in every variety of constitution.

Dr. Addison believes that pneumonia, such as the symptoms alluded to above represent it, is really not the simple, but a complicated form, and that the belief in its being the simple, is daily leading to serious oversights and errors. The following extract cannot, in fairness to Dr. Addison, be curtailed.

"In *simple pneumonia*, after chilliness, shivering, feebleness, and depression, the patient experiences, for the most part, strongly-marked symptoms of febrile re-action, giddiness, confusion, and sometimes intense pain in the head; occasionally delirium, especially towards night; *the skin acquires a pungent heat*, generally accompanied by dryness, more rarely by moisture; the pulse is full and strong, perhaps labouring and sluggish; the face is usually more or less suffused with a livid flush, accompanied by an expression of distress; the tongue is foul; its substance is more injected than in ordinary phlegmasiæ, and in a short time it manifests a tendency to become dry and brownish; the respiration is somewhat hurried, but *there is seldom any very obvious cough or expectoration, and sometimes none at all*; in short the whole assemblage of symptoms bear a most striking resemblance to those of a severe attack of common continued fever of the typhoid type, for which it is so repeatedly mistaken. If this form of the disease occur in moderately good constitutions, and is overlooked, especially if stimulants be administered on the supposition of its being a severe case of typhoid fever, it very commonly happens that the general prostration increases, the delirium or oppression of the brain is aggravated, the tongue gets dry and black, and the teeth covered with sordes; the breathing becomes more hurried, occasionally with a frequent slight hacking cough, and now and then a little bloody expectoration; the pulse gets flaccid, frequent, and feeble; and at length the patient dies.

Notwithstanding its close resemblance to a severe attack of continued fever—a resemblance so great, that even the stethoscopist is occasionally thrown off his guard—attentive observation will, in most cases, enable us to recognize the difference. The attack, in general, is more abrupt, and often follows some manifest exposure to cold or wet. The countenance, though congested and somewhat distressed, has not the dejection and stupidity so remarkable in fever: it displays more intelligence; and, although confused and perhaps slightly delirious, the patient, on being roused, commonly evinces a clearness and vigour of intellect not found in fever. The condition of the tongue also furnishes a valuable diag-

nostic sign. We know that, at the onset of fever, the contrast between the vividly-injected tongue and its white or grey fur is very striking: it is, in general, much less so in pneumonia. In the latter, if I may be allowed the expression, it is more the tongue of a phlegmasia: the hurry of respiration in pneumonia, is often not more than we commonly perceive amid the general distress of fever; and I repeat, that neither cough nor expectoration is necessarily present in a very appreciable degree. But of all the symptoms of pneumonia, the most constant and conclusive, in a diagnostic point of view is *a pungent heat of the surface*. By this symptom alone, the first stage of pneumonia may, in most instances, be readily recognized: by this symptom alone, I have repeatedly pronounced the existence of pneumonia, before asking a single question, or making the slightest stethoscopic examination of the chest. The presence of this symptom has scarcely ever yet deceived me, even in the most complicated forms of inflammation within the chest. I by no means contend that it is necessarily present at some period of every case, although I do not know to the contrary; but I feel justified in affirming, that when inflammation is confined to the chest, however varied may be the tissues involved in the inflammatory process, provided this symptom be present, pneumonia may be confidently pronounced to form a part, in nineteen cases out of twenty, and I believe in a much larger proportion.

A similar pungent heat of the surface is now and then observed in certain forms of renal dropsy; more frequently in continued fever, especially in children; and still more commonly in the eruptive fevers of the exanthemata and erysipelas; and as such cases may supervene upon already existing disease within the chest, the fact ought to be carefully remembered, lest a most valuable diagnostic sign should rather mislead than assist us. It is in original inflammation within the chest that it proves so constant and conclusive a sign of pneumonia, but on every occasion, when present, it ought to lead to a most careful scrutiny, by means of the stethoscope." 64.

The more simple form of pneumonia not unfrequently simulates affection of the brain, that is, the cerebral symptoms are most prominent. Dr. A. has seen several instances of this kind. In infants and very young children, the case not unfrequently apes hydrocephalus. In one instance, where hepatization had occurred, the symptom which attracted most attention was convulsions.

When there is cough and expectoration, Dr. Addison strongly suspects that the bronchial tubes are accidentally implicated, and that the amount of those symptoms is in the ratio of that implication. He is disposed to think that, in simple pneumonia, they are either not inflamed at all, or inflamed in a very slight degree.

When the mucous membrane of the bronchial tubes is involved to any considerable extent, the pneumonia is universally allowed to be complicated with bronchitis. It does not, however necessarily follow, continues Dr. A., that when pneumonia is present, the mucus of the accompanying bronchitis shall be tinged brown: on the contrary, the discolouration is often, in such cases, altogether absent, its presence and degree depending upon the quantity of blood which happens to be effused; exactly in the same manner as the ordinary *viscid sputa* of pneumonia may be colourless, or may be of a gamboge yellow, light green, or of a rusty or red colour, according to the same accidental circumstance.

Pain of any sort is seldom complained of in simple pneumonia, unless it is combined with pleurisy. But when the bronchial complication is such as

to occasion severe cough, there is frequently a burning or tearing pain, or rather soreness, experienced.

We have laid before our readers a pretty close abstract of this paper. We have not noticed the stethoscopic signs; because, on them, Dr. Addison says nothing new.

Those who are inclined to agree with Dr. Addison, or to dissent from him, will observe that he lays down two propositions:—1, *that*, what is called simple pneumonia is really the complicated form; 2, *that* the symptoms of simple pneumonia are such as he has stated them, and not such as they are commonly believed to be.

The first proposition is rather stated than proved. To establish it we should have dissections of the simple and the common or complicated pneumonia, and it should be shewn that in the former there is no inflammatory lesion of the mucous membrane, whilst, in the latter, there is. Supposing these facts to be established which they can only be by dissections, it will be impossible to deny that common pneumonia is really a complicated disease. At present we can only argue on probabilities and on general principles. Most persons will probably admit, that in common pneumonia the bronchial mucous membrane is affected. The difficulty is, to conceive any extensive inflammation of the lung in which it is not implicated. It is still more difficult to conceive that this should be a common occurrence. It is certain too that cases not unfrequently occur, in which common pneumonia, nay violent pleuro-pneumonia, takes place without giving rise to the usual symptoms. In such cases, the absence of cough and of expectoration cannot be attributed to the freedom from bronchial complication.

Whatever view we take of the preceding question, we must necessarily be interested in ascertaining the value of the diagnostic signs laid down by Dr. Addison. They represent, or are meant to represent, an entity, simple pneumonic inflammation, and it matters little in point of diagnosis, what its relation to other forms of pneumonia may be.

It will be observed that they are all quantitative, rather than positive symptoms. The attack is more abrupt than in fever—the countenance is not so dejected—the intellect is not so confused—the tongue is *more* the tongue of a phlegmasia—the surface is more pungently hot than in fever. We need not hint that such symptoms of quantity, of plus or minus, necessarily in some degree, are dubious and deceitful, because they imply the existence of a standard which can generally be recognized. A few well informed men may, from experience, establish such a standard in their minds, but the bulk, perhaps, of the profession will find it difficult to do so. Yet it must be recollected that Dr. Addison rather advances these symptoms, as reasons for suspicion than conviction, and that they are calculated to induce the stethoscopist to apply his stethoscope, and discover the *râle crepitant*. But if a man is not a stethoscopist, what is he to do? Buy a stethoscope and learn to use it as fast as he can. This is only one reason amongst many for every man doing *that*.

5. *On Black Expectoration, and the Deposition of Black Matter in the Lungs, particularly as occurring in Coal Mines, &c.* By William Thomson, M.D., of Edinburgh.*

This is a very long paper, and it must be owned rather a tedious one. The author might have saved his readers some trouble, by analysing the communications and the cases which he details in full, and we suspect that, had he done so, he would have increased the numbers of those readers.

We shall follow Dr. Thomson through the main heads of his essay, and transfer to our pages the facts and the considerations which we consider most important.

"There are obviously three ways in one or other of which the presence, in the texture of any part of the animal frame, of a substance not belonging to its natural constitution may be accounted for. 1st, It may have been separated from the mass of circulating blood by a process of secretion. 2d, It may have been discharged from the bloodvessels either through preternatural ruptures of their coats, or through their natural pores, without having undergone those changes in which secretion consists. And, 3d, It may have been introduced into the body from without, either by natural or artificial passages. In each of these cases, it is obvious, the substance may either retain the properties it possessed at the time of its being deposited in the situation in which it is found; or have undergone some subsequent change of properties in consequence of its being acted on by the surrounding solids and fluids of the body.

The presence within the body of different kinds of morbid matters of a black colour, has been accounted for on each of these three suppositions—that is to say, these matters have been conceived to be, in some instances, products of secretion; in others, to consist of extravasated blood; and in others, again, of foreign substances introduced into the body from without.

The frequent occurrence of black discolouration of the sputa during life, and the detection of black matter in the lungs and bronchial glands after death, more frequently than in any other parts of the body of which such matter does not form a constituent element, has led to the suspicion that in many instances these appearances must depend on the introduction of foreign substances into the respiratory organs by inhalation, and are not referable to either secretion or extravasation." 232.

It is the object of the author of the paper to ascertain the varieties of black sputa and black discolouration of the pulmonary organs, and to ascertain also their sources whether internal or the contrary. He is desirous, in particular, to determine the liability to these affections on the part of those who are especially exposed to the inhalation of carbonaceous powders or gases, such as coal-miners, and moulders in iron-works.

He divides the paper into three parts. Of these the first only is now published. It comprises all the individual cases of these affections, occurring in the class of persons alluded to, which have yet come to his knowledge—and, in addition, some communications relative to them, which have been received from gentlemen who have enjoyed the opportunity of witnessing them on an extensive scale.

A. "The cases which we have collected may be referred to two classes, 1st, Those in which the lungs have actually been found infiltrated with black matter on examination after death; and, 2d, those in which from the attendant symptoms, and particularly from the occurrence of black expectoration, there has

been reason to believe that such an infiltration had taken place, though an opportunity was not afforded of verifying the suspicion by anatomical examination. The first of these classes may be again subdivided under two heads; 1st, those cases in which there occurred symptoms of pulmonary affection during life, and in which for a longer or shorter period of time, the expectoration was of a black colour; and, 2d, those in which no mark of pulmonary ailment, or at least no black expectoration had been observed during life, and consequently no suspicion of black infiltration having occurred, was entertained previous to dissection." 234.

a. Dr. Thomson is acquainted with ten examples of cases of the first description; viz., of those in which there occurred during life black sputa and other symptoms of pulmonary affection, and in which, after death, black infiltration of the lungs was discovered. We shall subjoin the account of the state of the lungs in one case, in order that it may serve as a sample of the rest.

Both lungs, and particularly the right, were found to adhere strongly to the pleura costalis. The pleura pulmonalis of both lungs was much thickened, in some places, especially in the right lung, exhibiting a fibro-cartilaginous appearance and consistence, and about one-fourth of an inch in thickness. The pleura costalis corresponding to this portion of the pleura pulmonalis was ossified, and had caused bony union of several of the ribs. When cut into, both lungs presented one uniform black carbonaceous colour, pervading every part of their substance. The right lung was much disorganized, and exhibited in its upper and middle lobes several large irregular cavities, communicating with one another, and traversed by numerous bands of pulmonary substance and vessels. These cavities contained a good deal of fluid, which, as well as the walls of the cavities, partook of the same black colour. A considerable portion of the pulmonary substance surrounding them was dense, hepatized and friable. The rest of the lung was also somewhat condensed and very œdematous. The serum, when expressed, was of the same black colour as the substance of the lung. The left lung did not appear to contain any cavities but was condensed and loaded with black serum. Some minute hard points could be felt in various parts of both lungs, but they did not differ at all in colour from the surrounding substance, and no distinct tubercular deposition or infiltration could be detected in those portions of the lungs which were most hepatized, even with the aid of the microscope. The texture in these parts appeared quite uniform, and the minute hard points felt in other parts, rather conveyed the impression of their being merely the ends of small bronchial branches divided on making the section. The bronchial glands did not appear enlarged, but partook of the same black colour as the substance of the lungs.

b. The second class of cases are those in which the lungs have been found, on examination after death, to be infiltrated with black matter, although there had been no black sputa during life. Six cases of this kind have come to the knowledge of our author. We shall mention the particulars of one case only. It is sufficiently illustrative of the fact.

Case. The patient had received a compound fracture laying open the left knee-joint and fracture of the clavicle, scapula, and some of the ribs of the

same side, by a mass of coal falling on him. The leg was immediately amputated, and the patient was doing well till the fifth morning after the accident, when he was suddenly seized with a very acute pain on the left side of the chest, confined to a small spot in the situation of the fractured ribs, and accompanied by severe rigour, for which he was bled, &c.; but he sank rapidly and died four hours afterwards.

Inspection of the Thorax.—A few ounces of bloody serous fluid and some adherent lymph were found on each side of the chest. The pleura costalis was ruptured, the lung not torn. The pulmonary tissue was very black, and afforded the black colouring matter with great facility when cut down and pressed in water. It appeared, however, sound, and to have suffered no change of structure.

c. The third class of cases comprehends those in which black sputa have been observed during life, but in which there has not been an opportunity of examining the state of the lungs after death. And in connexion with these cases are several communications from gentlemen practising in different districts in Scotland.

We shall, as before, adduce one case only in illustration, and pass on.

Case. Dr. Marshall, of Cambuslang, in an essay referred to more than once by Dr. Thomson, mentions that some time previous to his having had an opportunity of ascertaining the nature of this disease by dissection, two cases came under his care, which he now regards as examples of melanotic phthisis. The first occurred in 1825; the patient had been a coal-heaver the greater part of his life. He had been labouring under chronic rheumatism for some years, and had occasional attacks of cough, difficulty of breathing, and palpitation. He attributed the commencement of his ailments to having worked for some time in a very impure atmosphere. In June, his debility had increased so much as to confine him totally to his house; and along with this there was great emaciation, with aggravation of the cough and dyspnœa, and his expectoration now assumed a dark inky colour, which became deepened as his disease advanced. In September, he was reduced almost to a skeleton, and the black expectoration had become very profuse. At this time he was removed to another part of the country, where he died shortly afterwards.

We may now leave the consideration of cases of the affection, and examine the reports alluded to, for the purpose of ascertaining the views of Reporters on the cause of the complaint.

1. Dr. Marshall, of Cambuslang makes, the following observations on the origin of the disorder.

“In the first place, the use of gunpowder is strictly prohibited in the pits here, excepting in getting through stone, a work not entrusted to the regular colliers. Second, one of the individuals had wrought at stone work in driving a level, but not for a great length of time previous to the obvious development of the affection; and third, this same individual, while employed as above mentioned, was in a pit charged with a most impure atmosphere. I may remark, in conclusion,” adds Dr. Marshall, “that after weighing all the circumstances connected with the cases I have seen, I still regard the disposition of the coal itself in the lungs as the cause of the disease.” 267.

2. Professor Schœnlein, of Zurich, informed our author's father that he

had seen several cases of the black infiltration of the lungs occurring in miners, both at Wurzburg and at Zurich, and was satisfied that, in some instances at least, the disease had appeared in persons belonging to mines in which no gunpowder was used.

3. Dr. Dewar, of Dunfermline, who has had great opportunities of observation, expresses the following sentiments:—

“ You will please to observe the distinction between colliers and stone-workers. The former are employed merely at the coal-wall, and use only picks and wedges at their work, while the stone-workers are occupied, in whole or in part, in removing the free-stone and other rubbish which separate the different layers of coal. In these latter operations, the aid of gunpowder is constantly required, and the workmen from the very imperfect state of the ventilation, are frequently enveloped in dense smoke. The persons who are exposed to this noxious atmosphere are, so far as my experience goes, the victims of this most fatal species of disease in the lungs, viz., consumption with black spitting.

1. Four brothers of the name of Smith, died with black spitting; all of them were stone-workers. Four sisters, of the same family, who have worked regularly in the coal-pit, are all in good health.

2. Four men, of the name of Bowman, died with black spitting; all of them stone workers. These brothers and four sisters, of the same family, who have worked in the pit, but not at stone-work, are all well. One sister died of consumption, the wife of one of the Smiths, but she had no black spitting. She died before her husband.

3 Two men, of the name of Brown, died with black spitting; both stone-workers. Three sisters, who have worked in the pit, are well.

4. Two Wilsons, stone-workers, died with black spitting. Three sisters, workers in the pit well.

5. Four Campbells, stone workers, died with black spitting. Three sisters and four sons, workers in the pit, well.

6. Williamson, a stone-worker, died with black spitting. Two brothers and one sister, pit-workers, well.

7. Black, a stone-worker, died with black spitting. Three sons and four daughters, workers in the pit, well.

8. Three Simpsons, stone-workers, died with black spitting. One son, a stone-worker, now dying with it. Two other sons and four daughters, pit-workers, all well.

9. Three Duncans, brothers, James, a stone-worker, died of the disease. Archibald, a stone-worker, now labouring under a cough with black spitting: and John, a collier, an old broken down man, with a cough and difficulty of breathing, but no black spitting.” 171.

He adds that all his patients have been somewhat advanced in life—that the progress in all was slow—and that he did not attend one case at the colliery among those employed where no gunpowder was used.

4. Mr. Philip, surgeon, of Aberdour, furnishes a very circumstantial report. He believes that the disease is occasioned by inhaling, for a length of time, the impure air of the mines, this impurity being caused by a mixture of carbonic acid gas with the atmospheric air. The following are his principal reasons:—

“ All the individuals whom I have seen suffering from this disease were males. In tracing their history I have always found that they have worked less or more at what is technically called ‘stone-work.’ The stone workers form but a small proportion of the workmen employed in a coal-pit, not more than twenty out of

130 or 140. Among the greater number who work constantly at the coal-wall, that is in heaving the coal, I have not found any instances of the disease to occur. In working at stone-work, that is in sinking pits and driving mines of communication, the workmen are exposed in an eminent degree to the influence of the impure air; for besides working in a confined space, and in a cul-de-sac, where the ventilation is very imperfect, there is also a considerable exudation of the carbonic acid gas from the fresh-cut surfaces of the minerals. In this impure air they continue to work for many hours daily for some months, their operations being frequently carried on several yards in advance of where their lamps will burn. In working at the 'coal-wall,' on the other hand, the workmen are in large roomy spaces, where every attention is paid to maintain a free ventilation. Amongst this class of workmen I have only met with two cases of the disease, some having worked for forty or fifty years as colliers without suffering at all."

5. Mr. Steele, of Craighall, says:—

"I consider the pulmonary disease of coal-miners to be excited chiefly by two causes, viz., running mines in stone, and working in impure air. In running stone-mines the workmen use gunpowder; there is often little and sometimes no ventilation; and the air is loaded with stony particles, with gunpowder-smoke, lamp-smoke, and sometimes, though not always, with choke-damp. This kind of work is a fertile source of evil, and if persisted in, sooner or later produces incurable disease in those who are engaged in it." 284.

6. Mr. Stevenson, of Silmerton, writes:—

"I have to state that in this place I have never yet been able to trace it (the black expectoration) to colliers at all, unless they may have combined mining operations with their usual work at the coal-wall. Indeed, from the cases that have fallen under my own observation, I have come to the conclusion that no collier or individual engaged in working coal only, either by blasting it with gunpowder or hewing it out in the ordinary way, does ever present the least expectoration of this sort while labouring under 'pulmonary consumption; but that it is confined entirely to those employed in stone-mining, or carrying through a communication below ground from one seam of coal to another, in certain kinds of hard rock, especially when, from the position of the strata or otherwise, much use is made of the pick; and I am further led to believe that some species of rock are worse in this respect than others. Some of the workmen suppose, that the use of gunpowder contributes greatly to the formation of the disease, but from what I have been able to learn, without any proper foundation. For although the spittle may be black after inhaling for a length of time the smoke arising from the different explosions in close mines, yet the blackness generally disappears within a few days, or week at most, in the same manner as when it is induced by lamp-smoke, leaving the lungs perfectly sound." 292.

Such is the main evidence, so far as it has gone. Dr. Thomson forbears pronouncing an opinion upon it at present, as he is still engaged in the prosecution of the enquiry. When the remainder of his Paper appears we shall resume the subject. In the mean time, we may urge those who have opportunities of investigation to collect all the facts and ascertain all the circumstances which those opportunities afford.

We must think of bringing this article to a conclusion. Before we do so, we may cast a glance behind; and survey at a bird's eye view the ground over which we have advanced.

The substance of what we have presented to our readers has been taken from the medico-Chirurgical Transactions. These are incomparably supe-

rior to any other Transactions which have been published, of late years, in this country, or, perhaps, in any other. Without being transcendental, the papers are, for the most part, highly scientific, and the too abstracted characters of *mere* science is happily dashed with a strong mixture of practical observations. Cases with long diurnal details are banished from the pages of these Transactions, and though striking insulated facts are not excluded, they *must* be striking to obtain insertion. The policy of this procedure is equal to its dignity, for, as it is honourable to appear as a contributor, a supply of able contributions is ensured.

Our limits have not suffered us to notice *all* the Papers. The most important, indeed the great majority, have been extracted or analysed, and out of seventeen we have presented an account of twelve. Those which remain are:—Observations on Vascular Appearances of Mucous and Serous Membranes, as indicative of Inflammation, by Dr. Yellowly—On the Treatment of Injuries received in Dissection, by Mr. Stafford—Case of Unusual Dislocation of the Thigh-bone, by B. Travers, jun.—Sequel of the History of Mary Wren, by Mr. Birch—Removal of a Portion of Lung which protruded through a Wound, by Mr. Forde. These will be adverted to at sufficient length in our next number.

When we turn to the Guy's Hospital Reports, we see much which merits encomium. The spirit which led to the publication of the Reports is an honourable one, the mode in which that publication has commenced was a bold one, and the manner in which it has been carried on is creditable. The present number is rather superior than inferior to its predecessors. Of nine articles which it contains we have offered an analysis of five, and those the most important. The remaining four are:—An Essay on the Safety-Valve Function of the Right Ventricle of the Human Heart, by Mr. T. W. King—A Summary of Cases in the Obstetric Ward, by Dr. Ashwell—Description of a Remarkable Case of Urinary Calculus, by Dr. Hodgkin—Illustrations of the Museum, by the same.

The Transactions of the Provincial Medical and Surgical Association arrived late in the Quarter, yet have been noticed in this Number. Its contents are the following;—1, Some Reports of Anniversary Meetings, Councils, &c.; 2, the Report of a Committee on Medical Relief to the Sick Poor; 3, the Retrospective Address, by John Green Crosse; 4, Medico-Topographical Account of Bolton and its Neighbourhood, by James Black, M.D.; 5, On Glanders in the Human Subject, by James Johnstone, M.D.; 6, a Case of Ovarian Tumor, successfully removed, by W. Jeaffreson, Esq.; 7, on the Physiology of the Muscular Nerves of the Eye, by R. T. Hunt, Esq.; 8, on the Unity of Organic Structure, by Thomas Paris Dick, M.D.; 9, Cases of Encysted Dropsy of the Thyroid Gland, by Congreve Selwyn, M.D.; 10, on the Influence of Sleep on Digestion and Secretion, by R. W. Scott, M.D.; 11, Cases and Dissections, chiefly in reference to the Uncertainty of Diagnosis, by Thomas Poyser, Esq.; 12, Case of Tetanus, successfully treated by Carbonate of Iron, by J. Hamerton, Esq.; 13, Case of Loss of the Memory of Language, by T. Shapter, M.D.; 14, Case of Malignant Abdominal Tumor, by T. Salter, Esq.; 15, a Case of Diaphragmatic Hernia, by W. Norris, M.D. 16, some Cases of Metastasis of Rheumatism to Internal Organs, by J. R. Walker, M.D.; 17, Facts Illustrative of the Effects of Chronic Pleuritis, by J. Windsor, Esq.; 18, Report

from the Birmingham Eye Infirmary; 19, Report from the Birmingham Dispensary; 20, Report from the Worcester Infirmary; 21, Observations on Medical Relief to the Sick Paupers, by Messrs. N. Rumsey, R. Ceely, and H. W. Rumsey; 22, Observations on the Sick Poor, &c. by John Yellowly, M.D.

The second, the third, the fifteenth, the seventeenth, the eighteenth, the nineteenth, the twentieth, the twenty-first, and the twenty-second papers have been noticed at a greater or less length in the present, or in the two preceding numbers of this Journal. What space we have now at our disposal shall be dedicated to some of the Papers which remain.

OVARIAN TUMOR SUCCESSFULLY REMOVED. By Mr. *Jeaffreson*, of Framlingham.

In this case, the sac of an ovarian dropsy was partially exposed by an incision of ten or twelve lines in extent, its fluid evacuated by the trocar, and then it was excised from its attachments to the left side of the uterus. Mr. Jeaffreson was induced to perform this operation from the uniformly fatal result of all the cases of ovarian dropsy which he has had an opportunity of witnessing. He thinks that the indifferent success, which on previous occasions, has attended the operation, has resulted from its having been delayed too long, in fact, until it has contracted too numerous and too firm adhesions to surrounding parts.

Case. In November, 1833, Mr. Jeaffreson was requested to attend Mrs. B. in her second labour. On making the usual examination, he discovered a tumour occupying the entire left half of the pelvis; it was firm, elastic obscurely fluctuating, and evidently covered by the parietes of the vagina. At first it could not be got to recede, but by gentle pressure, it at last, suddenly passed above the brim of the pelvis, and the labour proceeded naturally.

On the 4th of March, 1836, Mr. J. was again in attendance, and a fine boy was born without difficulty. But after delivery, the abdomen was little reduced in size, and very considerable effusion evidently occupied the left ovary. Various remedies were tried, with the view of procuring absorption of the tumor, but in vain.

On the 4th of May, she acceded to an operation proposed by Mr. Jeaffreson, the tumor being then on the increase.

“Accordingly, on the 8th, in the presence of my friend Mr. King, I made an incision of between ten and twelve lines, in the course of the lineæ alba, midway between the naval and the pubes, and having thus carefully exposed the sac, I evacuated by the trocar about twelve pints of clear serum. During the flow of the serum a portion of the sac was secured in the gripe of a forceps, to prevent its receding; and I afterwards gradually extracted the sac entire from the cavity of the abdomen, together with another sac containing two ounces of fluid, and indeed, the entire ovary, having only to cut through a slight reflection of the peritoneum and ovarian ligament, which, with the exception of a small portion of the fimbriated extremity of the fallopian tube, are the only natural attachments of the ovary to the uterus. But as this part was the medium of vascular supply to the sac, and the vessels on the surface of the sac were unusually large, we thought it right to include it in a ligature previous to returning it into

the cavity of the abdomen: the ends of the ligature were cut off close to the knot. A very small portion of omentum protruded with the sac, but was very readily returned; the external wound was closed with two sutures, adhesive plaster, and a compress of lint; and, by Mr. King's advice, I gave immediately a pill containing two grains of powdered opium, and a draught with a drachm of tincture of fox-glove, keeping a napkin wrung out of the coldest spring water, constantly applied over the whole abdomen. This plan I the more readily adopted, as this gentleman considered the well-doing of a patient, into the cavity of whose abdomen he had occasion to make a much more extended incision, was very much promoted by it; an operation which, from its very important bearings, I sincerely hope he will be induced to give to the profession at no distant period. In the night I gave a dose of calomel and extract of henbane; and followed this by giving, every four hours, a solution of sulphate of magnesia in saline mixture." 243.

On the 10th, there came on excessive vomiting, hiccough, pulse scarcely to be felt, griping pain in the bowels, and an aching, shooting pain in the course of the anterior crural nerve. These symptoms were relieved by a stimulating enema, an opiate, and a slight stimulant.

The sutures were removed forty-eight hours after the operation, when the wound was healed every where except at the points of their application. A compress and plaister were reapplied, and the latter was put on, for the last time, on the 15th. It is not necessary to say more, as the case did perfectly well.

Mr. King, of Saxmundham, has repeated this operation on a lady, where the ovarian sac was much more distended, and having evacuated $27\frac{1}{2}$ pints of fluid, he extracted it entire, together with a tubercular tumor the size of a turkey's egg. This lady has recovered without an unpleasant symptom.

These must be regarded as fortunate cases. The operation cannot be deemed other than a formidable one, under the most favourable circumstances. These cases, however, should be kept in the recollection of surgeons, and may encourage them to make attempts for the effectual relief of patients affected with ovarian dropsy.

CASE OF TETANUS SUCCESSFULLY TREATED BY SUBCARBONATE OF IRON. By J. Hamerton, Esq., of Elland.

Mr. T. N. aged 21, fractured the second phalanx of the thumb of the left hand, in the early part of February, 1835. Three weeks afterwards there was much stiffness about the wrist and general rigidity of the muscles of the body. On the 1st of March, Mr. Hamerton was called to him. He had then had some violent spasms, wish opisthotonos, and was seized with one while Mr. H. was examining him.

The treatment consisted in bleeding to 16 ozs.—an electuary of the subcarbonate of iron and the spirits of turpentine—a turpentine enema—a blister to the pit of the stomach—friction with the camphor liniment—and subsequently tonics. By the 15th, the tetanic symptoms were gone. During the space of fourteen days, this patient took as much as a pound and half of carbonate of iron.

This cannot be looked on as a case of very acute tetanus, and the cure is therefore the less inconsistent with what we usually observe.

ELEMENTS OF MEDICINE. VOL. I. ON MORBID POISONS. By
ROBERT WILLIAMS, M.D. Senior Physician to St. Thomas's
Hospital.

THIS is a work of great merit, and deserves public encouragement. The volume embraces Typhus, Scarlatina, Morbilli, Variolæ, Varicella, Erysipelas, Pertussis—each of which deserves a short article in our Journal.

In a well-written Introduction of 22 pages, Dr. Williams reviews the subject of morbid poisons generally, and has collected from the best sources, ancient and modern, foreign and domestic, whatever is known (that is worthy of record), respecting the laws by which they are governed, in their operations on the animal economy. In this part the author has introduced a good deal of original matter, in the way of comment or practical observation. We present the note at page 7, as a specimen.

“It is a popular prejudice, that if we would prevent the action of mercury on the system, we must give a purgative draught the next morning, which will carry it off. Dr. Fordyce brought this opinion to the test of experiment. He selected in the wards of St. Thomas's Hospital a given number of patients, whom it was thought necessary to bring under the influence of mercury. To one half of these persons he gave five grains of calomel every night, and followed it up the next morning by a purgative draught. To the other half he gave the same quantity of calomel, but omitted the purgative draught. The former patients were much sooner under the influence of mercury than the latter; a result which can only be accounted for on the supposition that the debility occasioned by the purgative medicine must have rendered the constitution more susceptible of the mercurial sialagogue.” 7.

In respect to the *modus agendi* of morbid and other poisons in general, he contends for the doctrine of absorption of the foreign matters into the torrent of the circulation, and their direction to particular structures afterwards, where they operate according to their specific affinities.

“The poison having once been introduced into the circulating torrent, in what manner does it act? Dr. Addison and Mr. Morgan are of opinion, that, on entering the bloodvessels, it makes an impression on the nerves supplying the inner coat of the vessel, and is then instantly destroyed; while the impression made on the nerves is conveyed to the brain, whence it is reflected to the parts secondarily affected. The more recently received opinion, however, is, that poisons are conveyed unchanged, or only modified, to the parts on which they more specifically act; and certainly the weight of evidence is greatly in favour of this latter hypothesis. For it is quite impossible to explain the fact of iodine and a variety of other substances, being found in the urine, and other secretions of the body, or else thrown off by the lungs, without inferring that these poisons have been carried to those parts either in substance, or else resolved into their elements—a state which, for anything we know, may be equally deleterious with the original compound. Some substances, also, have been found unchanged and embedded in the bones as madder. There is, likewise, no fact better proved in physiology, than that the different tissues of the body are acted upon by particular stimuli only. Thus the retina is insensible to sound—the tympanum to light. The secretions of the bladder and intestines produce healthy actions of those viscera; but if through disease these parts communicate, and their contents mingle, gangrene, and the saddest results are the consequence. There is little question, consequently, but that poisons are conveyed to the parts on

which they act, and produce their effects by immediate contact, and not by the intervention of the brain; for the brain has been removed in animals poisoned by strychnine, and yet the phenomena of tetanus have resulted." 20.

Our author, however, is far from denying that the nerves play an important part in the agency of poisons. Prussic acid, and even arsenic (when in large doses), will destroy life before there can be absorption at all—and consequently it must be by the deleterious impressions which they make on the sentient extremities of the nerves. The following is Dr. Williams's distribution of diseases produced by morbid poisons.

"The Diseases that are both Contagious and Infectious are—

Typhus.	Varicella.
Scarlatina.	Erysipelas.
Morbilli.	Pertussis.
Variolæ.	

The Diseases that are Simply Contagious are—

Variolæ Vaccinæ.	Pestis.
Syphilis.	Cellulitis Venenata.
Gonorrhœa.	Cellulitis Farciminosa.
Hydrophobia.	Tinea.

The Diseases that are neither Contagious nor Infectious, but depend on the agency of certain Miasmata, are—

Febris Palustris.	Dysenteria Palustris.
Cholera Indica.	

This catalogue might perhaps admit of some additions, as Catarrh, Influenza, Angina Parotidæa, &c.; but it has been thought preferable, until the arrangement shall have received the approbation of the profession, not to introduce any disease that might give rise to controversy." 23.

We were gratified to find that an enlightened hospital physician, whose public practice is in the Borough, has discarded the late epidemic cholera from among the contagious, or even infectious diseases. The most decided contagionists and alarmists of 1832, who intimated little less than that the anticontagionists deserved burning at the stake, are now silent and chap-fallen, seeing that their darling prophecies of Indian cholera becoming domiciliated in England, are all vanished into air! We will not be so uncharitable as to suppose that the Cholera-board-men—in other words, the red-hot contagionists would rejoice in seeing the prophecies verified. We believe they would feel quite otherwise than rejoiced:—for they were woefully afflicted with *Cholera-phobia*, and some of the heads of departments, to our knowledge, kept at a very respectful distance from cholera patients, whenever they could, with decency, do so! But we need not now dwell on days of Lang Syne

TYPHOID POISON.

Typhus is defined by our author a "continued febrile disorder, having no intermissions:—it runs a course of very varied length, and is both infectious and contagious." He goes on to say, that "there is but one simple

continued fever in this country—and that is caused by the agency of typhoid poison." The ancients, living in warm climates, were unacquainted with this fever. Willis, he thinks, was the first physician to distinguish between typhus and the malarious or paludal fevers. Morton makes the same distinction. Our author then traces the history of typhus down from the Cambridge assizes, 1521, to the fatal event of the Old Bailey in 1780, and finally agrees with Pringle in believing that the fevers of different years are uniform in character, though different in intensity, and—

"That all simple continued fevers in this country, by whatever name distinguished, as jail fever, hospital fever, low fever, nervous fever, brain, putrid, or bilious fever, are mere varieties of the same continued and contagious disease—typhus fever." 30.

The remote cause of this poison is, at present, hidden from our sight and senses. The two most feasible hypotheses, he thinks, are the emanations from the persons of healthy, or unhealthy, but crowded bodies of people—and, secondly, the effluvia from marshes, that is from decomposing vegetable matters. Another hypothesis, however, to which our author is inclined to give assent, is this, that the poison of typhus is always diffused through the atmosphere, but only comes into operation when the human frame is predisposed thereto, by other deleterious causes, as heat, cold, mechanical injuries, &c.

"It results, therefore, that we must admit the typhoid poison to be generally diffused through the atmosphere; for typhus fever, in those countries to which it is a native, is equally present in the crowded and populous city, and in the lone and solitary hut; and, in proportion to the population, is as frequent on the mountain as on the plain. The poison, also, may be affirmed to exist at all periods of the year, for no season is free from its ravages; but it varies greatly in quantity or intensity, the fever being mild or fatal, sporadic or epidemic in different years." 33.

As to the power of this fever communicating itself from one individual to another, our author has no doubt. But as we find an immense majority of the fevers of this country apparently non-contagious, many will be disposed to question the truth of their being all typhoid and contagious. That typhus itself is contagious, there can now be little doubt, and the proofs brought forward by Dr. W. are incontrovertible.

"The poison which has thus been proved to be the cause of typhus fever, is subjected to certain laws. It is capable of being diffused through the atmosphere, and, according to its intensity, of producing disease at certain distances—it also infects fomites—has a predilection for certain victims—lies latent a given period, gives rise to a certain series of phenomena, and the course of those phenomena is modified by modes of treatment." 37.

All these points are illustrated and discussed by Dr. Williams, but the facts and arguments are familiar to our readers, and need not be adverted to in this place. Typhus disproves the Hunterian dogma, that two constitutional diseases cannot co-exist. It is often seen in conjunction with scabies, syphilis, erysipelas, &c.

"*Pathology.*—The typhoid poison having been absorbed and mingled with the blood, and the period of latency passed, it primarily induces certain derangements of the *functions* of the great nervous centres, and consequently of the

many organs and systems they supply; derangements which constitute the phenomena of fever; as alterations of temperature—changes in the force or frequency of the pulse—disorders of the alimentary canal, with other concomitant affections. After a certain time, however, not yet accurately determined, the typhoid poison, in addition to the febrile phenomena, induces certain local lesions or alterations of structure in a limited number of organs or tissues of the body. The alterations of structure are, first inflammation of the mucous membrane of some portion of the intestinal canal, which membrane is the great and primary, if not the constant seat of the action of the poison; secondly, inflammation of the membranes of the brain, which, though not constant, are frequent; thirdly, certain cutaneous eruptions, likewise frequent, but not constant; and lastly, inflammation of the substance or bronchial membrane of the lungs, or both, which occurs in a small number of cases only." 41.

This pathology is probably as near the truth as any that has been offered hitherto. Broussais and his disciples will consider their claim to superiority over Clutterbuck and his adherents, as strengthened, if not established by this declaration. There is, however, a very pertinent saving clause introduced by Dr. Williams, which cannot prove very palatable either to the gastro-enterite or encephalite party.

"The law, that fever precedes the great specific actions of the typhoid poison, is deduced from the fact, that there are many instances in which the patient has fallen in typhus, and yet no alteration in the structure of any has been traced: it is consonant also with the laws of other morbid poisons. The specific actions of the poisons of small-pox or of scarlet fever are not set up till after some days' preliminary fever; and the phenomena of intermittent fever precede frequently by many weeks or many months the occurrence of any local affection." 41.

This just brings us back to the commonly received opinion, that fever is a general disease, producing local effects, in a great number of instances, where life is not destroyed by the onset of the disease. The interval between the accession of the fever, and the commencement of the topical inflammations, cannot be precisely determined. Dr. W. thinks it is not great. Chomel had an opportunity of examining a case where the patient died on the seventh day, yet the follicles of the mucous membrane of the intestinal canal were found to be enlarged.

Sir John Pringle appears among the first to connect fever with gastro-enteritis. He examined ten patients who died of typhus, and came to the conclusion, that when the disease proves fatal it generally terminates in actual mortification of some part—especially the intestines—or in abscess of the brain. This was in 1750. Ten years afterwards, Ræderer and Wagher, in Gottengen, found the intestines inflamed in the fever that prevailed among the French troops occupying that city. They considered this fever, however, as one *sui generis*, and drew no useful conclusions from it. In 1803, M. Prost drew the attention of the profession to the pathology of fever, stating that he had examined the bodies of upwards of 150 people who had died of "*fièvre ataxique*," and always found inflammation of the gastro-intestinal mucous membrane, with or without excoriation. In 1813, Messrs. Retil and Serres brought forth a work "*Sur la Fièvre Entero-Mesenterique*," the pathological peculiarities of which were inflammatory alterations in the mucous follicles of the ileo-cæcal valve and neighbouring parts. Broussais is passed over without notice by Dr. Williams—a most

singular omission—and which we cannot explain. Bouillaud, Andral, Alison, Chomel, are mentioned as adding their quota to the illustration of fever pathology.

“When the typhoid poison sets up its great specific action on the mucous membrane of the alimentary canal, that of the cæcum, or ileo-cæcal valve, is in a great majority of cases the exclusive seat of the disease; but in a smaller number of cases the inflammation extends its ravages both upwards and downwards, from a few lines to many inches, from those points as from a centre. In a few instances, however, the colon or small intestines, or the stomach, is the exclusive seat of the disease, or the poison may involve any combination of those parts. The inflammation thus excited may attack the free surface, or the adherent surface of the mucous membrane, or it may fall on its most common seat of action, the mucous follicles, and attack these parts either separately or conjointly.

When the poison falls on the free surface of the mucous membrane of the alimentary canal, it excites diffused inflammation of the part, which may terminate either by resolution or by ulceration. Diffuse inflammation of the mucous membrane of the alimentary canal, in whatever part it occurs, is characterised by a deep venous colour, almost approaching to blackness. The substance of the membrane is also generally thickened, and its adherent surface usually, though not constantly, softened so that we can readily detach large portions of it by means of the handle of the scalpel.

Diffuse inflammation, though it sometimes terminates in resolution, yet in fever more frequently ends in ulceration; and the ulcers vary greatly in number, form, and character. There may be one or several, their form may be either regular or irregular, and their edges may be either elevated or depressed, indurated or broken down. If the ulceration proceeds, the muscular and serous tunics are involved, and a livid congested spot, seen through the peritoneal coat marks the precise seat of the ulcer; and if the disease proceeds still further, the intestine bursts, and the patient dies of peritonitis. In a very small number of cases the specific action of the poison falls exclusively on the cellular tissue connecting the coats of the intestines, and, perhaps, principally on that of the colon. This inflammation usually terminates in the formation of a number of small abscesses, over which the mucous membrane softens and bursts, and then their contents are discharged into the intestinal canal. The appearance of this form of inflammation is that of a pustular disease, and has been compared to the small-pox. These abscesses sometimes burrow in an opposite direction, and the patient dies, as in the former case, from peritonitis.” 47.

The typhoid poison does not act exclusively, as some have imagined, on the mucous follicles. In one year, or in one epidemic, it may do so; in another it may act on every constituent part of the mucous membrane. When it acts on the glands, those of the ileo-cæcal valve are most frequently the seat of the mischief.

“When inflamed in the first degree, or that of serous inflammation, the gland scarcely visible in health, becomes greatly enlarged in consequence of effusion into its substance, while the transparency of its tissues causes it to appear translucent, with a black point in its centre, which is the excretory duct. In children and others, when the fecal matters are void of bile the gland is colourless like a drop of water; but when much bile is present, it usually represents the appearance of a drop of amber.

The second stage of follicular inflammation is marked by the gland having lost the transparency of the first stage, and being reduced in bulk compared with the first degree of inflammation though still much larger than in health.

It is now hard prominent, white and opaque. The first and second stages of follicular inflammation may terminate by resolution.

The third and last stage of follicular inflammation is ulceration. In this case, the gland bursts, and its contents escaping, leave a deep depression in the mucous membrane, so that supposing the ulceration to occur in an elliptical patch, the unequal surface of the mucous membrane gives that part the appearance of being granulated. The appearance of the ulcer, whether of the glandulæ segregatæ, or aggregatæ are very various; sometimes their edges are something elevated, or broken down, and their base covered with a putrid sanies; at others the edges are perpendicular, as if made by a punch, while the base of the ulcer is clean, exposing the muscular or peritoneal coat; which in a few cases bursts, and the termination of the disease is then by peritonitis. When the action of the poison is at length worn out, the ulcer granulates and heals, but a depression remains, denoting its seat, and the imperfect reparation of the part." 48

M. Louis found the stomach more or less diseased in one half of the cases; but in these and in all the others, there was follicular disease of the cæcum and intestines.

"When the stomach is the seat of disease in fever, the poison commonly induces either to diffuse or ulcerative inflammation of the mucous membrane. The colour of this inflammation is a deep venous purple, which changes in a few minutes, after exposure to the atmosphere, to a bright arterial colour. The discoloured portion is also usually altered in texture, the villousities being broken down, and the surface more pulpy than natural; the mucous membrane also is thickened, and its cohesion impaired, so that it is more readily detached, and in larger proportions than in a state of health. The inflammation is usually partial, occupying the convexities of the folds, or the great cul de sac, or the orifices of the stomach; occasionally, however, the stomach is one uniform dull red," 49.

This diffuse inflammation may pass into the ulcerative, the ulcers assuming various forms and characters; but generally being small, and presenting a sharp edge with perpendicular sides, as if made by a punch. They are most frequent about the pyloric orifice, and in the great cul de sac.

Next to the intestinal canal, the brain and its membranes are the parts most frequently affected by the typhoid poison.

"It has been calculated that in five cases out of six the functions of the brain are more or less deranged in fever, while in the sixth case, though the powers of the mind may be enfeebled, yet they are in no sensible degree perverted; and even in those cases in which the delirium and general excitement show the functions of the brain to be most disturbed, still it has frequently happened that no trace of inflammation, or other alteration of structure, has been found in the brain or its membranes after death." 50.

It is remarked by our author that the science of pathology is not sufficiently advanced to enable us to determine whether mere injection of the cerebral vessels constitutes inflammation of the brain. We seldom see more than vascular turgescence of these parts in fever. The membranes, however, are much more frequently affected than the brain itself, and appear to be the more specific seat of the poison's action. The dura mater usually escapes; but the arachnoid and pia mater are liable to the different forms of inflammation, as the diffuse, the serous, the adhesive, and the purulent—all of which forms are not unfrequently seen in the same subject.

The organs, next in order of attack, are the lungs. The frequency, however, is very variable, according to the seasons of the year. "In this country, judging from the hæmoptysis and purulent expectoration so frequently met with during life, the bronchial membrane would seem to be the most frequent seat of the disease." But all calculations have been only distant approximations to the truth. The pulmonary texture itself is not so frequently affected as the mucous membrane. The skin is subject to more than one affection in fever—to petechiæ, sudamina, and, towards the close of the disease, to ulceration. The petechial eruption most usually appears from the 7th to the 9th day—sometimes much later.

The symptoms of typhus form a most complex problem, according as the poison acts on the three great nervous centres. Its varying intensity has induced pathologists to divide it into typhus mitior and gravior, together with several subdivisions. One of the most remarkable symptoms is the extreme prostration of strength, both moral and physical. But we need not dwell on the symptomatology of typhus, which is peculiar even to our tyros.

Treatment.—This is divided into the curative, dietetic, and preventive. Is it possible to arrest typhus in its march? Cold affusion and emetics were thought capable of suspending fever. This remedy is now generally laid aside for sponging—and this, too, is only palliative. As to emetics, they often do harm, where the mucous membrane of the stomach and bowels is in an irritable condition. They never can stop the action of a morbid poison, and they are fast falling into disuse. Bark and mercury have specific effects, no doubt; but they cannot be expected to stop the progress of a fever dependent on an aerial or terrestrial poison. Mercury, however, is an important medicine in conducting fever to a favourable issue. In short, there is no known antidote to the poison of typhus. Our author glances at the various modes of treating this disease, as advocated by Sydenham, Huxham, Pringle, Lind, Fordyce, and modern writers of England and the Continent. These need not detain us. The following passage contains judicious precepts.

"The great laws of fever that should guide us in the treatment of this disease are, first, that it has a course to run; and secondly, according to the idiosyncrasy of the patient, or the particular modification of the poison, that there is a series of local inflammations to be set up, as in the case of scarlet fever, measles, or small-pox, inflammations which it is probable no art can prevent, and which, when moderate, render the disease both milder and safer than when the inflammations are trifling, or altogether wanting; and lastly, that the general as well as the specific actions of the poison are greatly increased by unnecessary depletion, and by whatever weakens and debilitates the body. The rules of treatment which follow from a consideration of these laws are both negative and positive. The negative are not futilely to attempt, with our present limited means, to stop the fever, and more especially by bleeding, which only the more predisposes the patient to the action of the poison; neither ignorantly to treat the patient by active measures in anticipation of the occurrence of any of the accustomed inflammations; for it is plain, from the phenomena of syphilis, that no medicine will act on the poison while yet latent, though it may control and mitigate its actions after they are set up.

The positive rules of treatment are not to anticipate any thing in fever, but to await the occurrence of each particular symptom; and inflammation being set

up, to remember that it bears a specific character, and that we might as well attempt to stop the small-pox eruption as to impede its course. All, therefore, we can effect prior to the inflammation is to remove all those causes which may irritate, and consequently predispose any organ liable to be affected; or supposing the inflammation exist, to remain satisfied with so moderating its intensity, that the life of the patient may not be endangered by this particular affection; and beyond this, medicine has at present no power, except to stimulate those secretions which are in defect, and to restrain those which are in excess." 83.

As there is no known symptom, observes our author, by which we can tell when *disordered function* of the gastro-intestinal membrane ends, and change of structure begins, we may assume that, in all cases where the disease has continued even for a few hours, inflammation exist—"An assumption which, though it may not actually be the fact, is true in forty-nine cases out of fifty." This is strong language, and, we apprehend, a still stronger assumption. Be this as it may, we must make room for the following mode of treating fever, as pursued at St. Thomas's Hospital.

"In a very large majority of cases diarrhœa is the only, or the principal symptom, when the alimentary canal is inflamed. The number of stools varies from three or four to eight or ten, or even to twenty, in the twenty-four hours. They are always loose, and may be indifferently green or yellow, ochre-coloured or black, and frequently contain large flakes of mucus, tinged with bile, and resembling moss-like vegetations. These stools do not furnish us with any accurate data, either as to the nature, the gravity, or the particular seat of the inflammation; for no difference has been observed in them, whether the inflammation be diffused or follicular, or whether its seat be the colon, the cæcum, the small intestines, or the stomach. It will be evident, in such a state of things, that the exhibition of series of doses of purgative medicines can only tend to keep up an irritation, which must greatly tend to aggravate the existing inflammation; so much so, that out of ten patients treated by purgatives by Andral,* nine died. It is also certain, that even so mild a remedy as the hydrargyrus c. cretâ has little power over the diarrhœa to assuage it, and perhaps none to change the character of the stools, and to render them more healthy, until the violence of the disease be past. The whole class of astringents seldom proves efficacious; opium affecting the brain, while kîno, hœmatoxylin, and catechu, increase rather than soothe the inflammation. Neutral salts, which are not purgative, as the acetate of potash, either in the state of effervescence or otherwise, are grateful to the patient, and by tranquillizing the stomach, always give relief, and are so far beneficial; but in other respects they exercise a very trifling influence over the disease.

Medicines, then, have little effect, either in controlling or subduing the inflammation of the intestinal canal in fever, or even in controlling the diarrhœa. It remained, therefore, to try what effect an almost purely local treatment would produce, and whether, by means of soothing the intestine, we might not moderate the inflammation, and in this manner produce, both directly and indirectly, more sanatory effects. Many different plans have been tried to effect this object, but that which has been found the most successful is that of enemata, consisting of barley-water and of syrup of poppies. This plan has been tried during the last seven years in a large number of patients at St. Thomas's Hospital, and with, comparatively speaking, very favourable results. The mode of treatment is as follows.

* Clinique Médicale, vol. iii. p. 644.

Immediately on the admission of the patient, whatever may be the stage of the disease, ten grains, or a scruple of rhubarb, are exhibited. The object of this preliminary dose is thoroughly to empty the intestines; for, notwithstanding the patient has been suffering greatly from diarrhœa, it has frequently been found on posthumous examination, that the inflamed portion of the intestinal canal has so strongly contracted on some hard scybala, as to have retained them, and thus, contrary to all expectation, an irritating cause has existed in the intestines, which has mainly contributed to the fatal result. The bowels having been satisfactorily emptied, an enema, consisting of a pint of barley-water, together with half an ounce of syrup of poppies, has been directed to be given night and morning. This simple treatment has been continued till the patient is convalescent, and has been rarely complicated by the exhibition of any medicine whatever. Its success has been remarkable, compared with other modes of treatment, when the fever has been of any moderate degree of intensity; so much so, that in the years immediately before the cholera, out of sixty-three cases treated in this manner, only one died. The cholera was preceded and accompanied and followed by a fever of great severity, and of unusual fatality, and the treatment by enemata in those years has been by no means so successful, one being lost out of four or five. But still it has been considered, on a comparison of the deaths and recoveries under other modes of treatment, that this by enemata was on the whole the most successful. Many attempts have been made to render this simple mode of treatment more efficient by the topical application of leeches, or blisters, or mustard-poultices. There is no point, however, more delicate in the treatment of fever, or which requires so much judgment, as the interfering with its course even by apparently so slight a remedy as topical depletion. A man of about thirty years of age was brought into St. Thomas's Hospital, labouring under a severe form of fever, accompanied by slight delirium, and some bronchial inflammation. The treatment by enemata was adopted, and the case carefully watched. As soon, however, as the tongue had begun to clean, and the delirium had subsided, it was thought necessary to attempt to relieve the lungs by a topical application of fifteen leeches. They were applied; and on visiting the patient the next morning, he was found labouring under such strong cerebral excitement, in consequence of this trifling loss of blood, as to be strapped down in bed. The treatment by enemata was continued, and in two days the delirium subsided, and the patient recovered. The occurrence of delirium after the application of leeches, or else of its aggravation* when it has previously existed, is so frequently witnessed, as distinctly to show, that in fever, as well as in cases of poisoning generally, in proportion as you debilitate the patient, even in the degree perhaps necessary to save a given organ, so is the nervous system generally laid only the more severely under the action of the poison. In all cases, therefore, in which there is a great predisposition to the action of the poison, and it is impossible to distinguish these cases previously to the experiment being made, leeches do harm, and retard the recovery. There are cases, however, in which delirium to a considerable, and even violent degree is kept up, reasoning from results, apparently in consequence of the sympathy existing between the brain and diseased state of

* A woman now lies ill of fever in St. Thomas's Hospital, from whom it was thought necessary to take 12 ounces of blood, in order to moderate the delirium; but instead of the cerebral affection being mitigated, it became more violent, so as to disturb the whole ward, and even the sister, who sleeps in an inner room; she also immediately afterwards passed her stools involuntarily. The treatment by enemata was adopted, and she so far improved that her pulse was counted below 100, and there was every prospect of her recovery; but she has been seized with erysipelas, caught from a patient lying on the opposite side of the ward, and she now lies in a very precarious state.

the intestinal canal. A nurse in St. Thomas's Hospital was seized with fever, during her attendance on a fever patient. The cerebral excitement was in this instance so great, that her screams were heard in the courts of the hospital. It became, therefore, necessary to remove her from the ward into a more private part of the building, in order that she might no longer distress the rest of the patients. It had been attempted to relieve the delirium in this case by leeches, and other topical applications to the head, but without success. Fifteen leeches were now applied to the abdomen, and the system of enemata adopted. They were successful. In a few hours the delirium subsided, and the patient ultimately recovered, though only after a long convalescence, in consequence of extensive sloughing of the back and nates. These cases are not uncommon, and I have sometimes seen delirium in fever amounting even to mania, when examination has shewn only extensive ulceration of the cæcum. It is extremely difficult to determine the cases in which these different idiosyncrasies, or susceptibilities to the action of the poison, exist; but if the patient be of a full habit, and young and flushed, and the pulse one hundred and ten to one hundred and twenty in the first stage of fever, the application of leeches has in general been well borne and given relief. On the contrary, when, as in the cholera years, the patient has been full and bloated, the countenance purple, and the sputa streaked with blood at the first onset of the disease, depletion by leeches from the abdomen, or any other part, has aggravated all the symptoms, and the patient has rapidly sunk.

It is plain, therefore, that in applying leeches to the abdomen, much is at all times put to hazard, and that the ultimate success of the case must, in a great measure, depend on the tact and judgment of the practitioner. It should also be borne in mind, that although the pain of the abdomen is in general referred to the epigastrium, the seat of the disease is, in most instances, the cæcum; and consequently, when the application of leeches is thought necessary, we embrace a much greater number of chances by applying them over the cæcum than over the epigastrium. The most undoubted symptoms warranting the application of leeches to the abdomen, is when pain is produced on making pressure over the cæcum. The state of the tongue ought not to prevent their application when this system is present, but they should in all cases be applied with greater reserve and caution when the tongue has changed to brown or black, showing the extreme degree in which the whole system labours under the poison.

Besides the application of leeches, blisters to the abdomen have been occasionally applied as adjuvantia to the treatment by enemata, and with good effect; but mustard poultices are to be preferred to blisters on account of their more speedily acting, of the greater surface they cover, of the heat which they impart, of the greater frequency with which they can be applied, and of their not affecting the bladder. No local application, then, has been found so useful as mustard poultices to the abdomen, and in every severe case they ought to be used once every day, or oftener, till the disease is in some degree controlled, and the patient safe.

As a general principle, therefore, a large experience has shown, that in mitigating the disordered states of the intestinal canal in typhus fever, there is no treatment so generally successful as that by syrup of poppy enemata, together with the application of mustard poultices, and occasional and moderate local bleeding. In adopting this method, we embrace two great chances: 1st, that of relieving the inflamed intestine; and 2ndly, that of relieving the brain in all circumstances in which that organ is merely sympathetically affected. The immediate operation of the enemata is to remove from the inflamed part all that irritates it, and thus to place it under circumstances the most favourable to a happy termination. Their indirect effect is to produce a general glow over the whole body, to lull the brain, and to quiet the general as well as the local irritation, and they are of the most service when they are for some time retained." 88.

When complicated with cerebral inflammation, some modification is necessary. Moderate delirium is not considered as requiring any particular treatment. When headache, however, is severe, and especially when the conjunctiva is affected, from ten to twenty leeches may be applied to the temples—and may be repeated according to circumstances. In cases where there is no headache, but where the pulse is preternaturally slow—40 or 50—leeches are necessary. As adjuvantia, cold to the shaven pate, is beneficial. Blisters, he thinks, are capricious, and little to be relied on. The lancet he observes, is to be cautiously used when the poison acts secondarily on the mucous membrane of the air-passages. We must now conclude.

“Such is the mode of treatment a long experience has taught me to prefer to those proposed by the old masters. The exhibition of enemata as an occasional remedy is spoken of by many writers, and many physicians have attempted to avail themselves of the specific effects of bark thus introduced; but no author has made mention of any systematic use of them, founded on the conviction that the inflammation they had to deal with was long and intractable, and required a patient and persevering use of what may appear perhaps a negative mode of treatment. Success is the only criterion in medicine, and certainly this has effected the cure of a much larger proportion of cases than any other mode I have witnessed. In fevers of any moderate degree of intensity it mitigates all the symptoms, sometimes entirely prevents, but more frequently shortens the brown tongue stage. Indeed, when this treatment fails it is difficult to say what will succeed.” 93.

Against facts, especially when stated without bias or prejudice, it is useless to oppose opinions. We are all aware that a great proportion of fevers will get well under no treatment at all. In the cabins and hovels of Ireland whole families are often down at the same time with typhus fever—most of them having nothing but water, or whey, or milk and water to drink; and yet a great majority survive. Whether the poppy injections of St. Thomas's Hospital act negatively or positively in the treatment of fever, we should be loth to make affidavit. Having witnessed the *apparently* good effects of purgatives—especially mild mercurials—in fever, in this and in many other climates, we confess that we should be disinclined to trust to the mode of treatment recommended in the foregoing pages. Mean time we have no doubt that amongst the fever patients of a general hospital, where misery, bad food, and various evils, moral and physical, have greatly lowered the powers of life, a treatment so inert, or rather so soothing as that employed by Dr. Williams, may possibly be that which is best adapted to such classes. A considerable number of cases are appended in illustration, drawn up by an intelligent pupil, Mr. Wegg, to which we refer our readers.

II. ON THE POISON OF SCARLATINA

The exanthemata are supposed to have been introduced by the Saracens about the middle of the sixth century, each depending on a distinct poison, and all causing havoc and terror through the various ranks of society to the present time. The peculiarity of these poisons consists in their generally conferring an insusceptibility to future attacks. Scarlatina and measles were long confounded together, in consequence of their having many points

of resemblance, and Sydenham appears to have been the first to attempt a discrimination, but was not successful, as he only described the scarlatina sine angina—a disease of little moment. Fothergill followed, but it was Withering who first gave a luminous description of the specific differences between scarlatina and measles.

The remote cause of scarlatina is quite unknown. Doubtless this agent had once a local origin, but the poison is now so extensively diffused through the atmosphere of every country, that its frequent operation causes no wonder. The disease has been found to spread more fatally and freely amongst the poor than the opulent—and attacks infancy much more frequently than adult age. The individual, when once attacked, generates a poison of the same kind, which is diffused through the atmosphere, and keeps up a constant emporium of the infection. The contagion of scarlatina passes unquestioned amongst the profession, and therefore very positive proofs have not been sedulously adduced. The distance to which it extends around the person of the patient, is not ascertained. It seldom spreads in the wards of great hospitals, because the disease is chiefly confined to childhood where the susceptibility of the constitution becomes exhausted. The infecting distance, however, is generally supposed to be greater than in typhus. The contagion of scarlatina has been demonstrated by inoculation (Sir B. Harwood) but the disease thus produced was as formidable as that which takes place in the natural way. The propagation by fomites is universally acknowledged. The period of latency after infection is supposed to vary from a few days to ten or twelve. Many instances have been adduced where the poison produced its evident effects in two or three days. It is believed that the generation of the poison commences with the fever and before the appearance of the eruption. Dr. Willan thought that children convalescing from scarlatina, in spite of every attention to cleanliness, and change of apparel, are capable of communicating the disease (especially to other children), for two or three weeks after apparent recovery.

“*Pathology.*—The time of incubation being completed, the poison of scarlatina primarily acts on the great nervous centres, deranges their functions, and produces fever, which from its preceding the secondary or specific actions of the poison by a period of twenty-four, forty-eight, or seventy-two hours, is usually termed the primary or eruptive fever. This fever does not remit; and at the end of the period that has been mentioned, the secondary actions of the poison are set up, and the scarlet fever is fully formed. The febrile phenomena continue till after the secondary actions have terminated, when they subside, and the disease, in a great majority of cases, is at an end. In a few cases, however, the tertiary actions of the poison supervene, and the fever may or may not accompany them.

The specific actions of the poison are a peculiar inflammation of the skin, extending to the cellular tissue beneath, and producing a tumefaction of the body generally, but more especially of the hands, and this in a few cases terminates either in œdema or in mortification; secondly of inflammation of the mucous membrane of the eyes, nose, mouth, and more especially of the throat, sometimes extending the epiglottis, the larynx, or the trachea; and thirdly, of inflammation of the membranes, either of the brain, the joints, or of the abdominal or thoracic cavities. The inflammation of the skin is the great characteristic of the disease. It runs a given course, of from six to eight days, and with few exceptions is constantly present. The affection of the throat is also very gene-

rally present, and is only wanting in a rare form of the disease, the scarlatina sine angina, but its course is indefinite, and varies perhaps from eight to twenty or more days. The occurrence of the tertiary actions of the poison is only occasional, and their frequency has not been accurately determined." 122.

The disease sometimes takes on the form of a papular eruption—sometimes vesicular. The appearances of the eruption of scarlatina we need not describe here, they are too well known.

Scarlatina, of every kind, is accompanied by a remarkable prostration of strength, both moral and physical—to such a degree, sometimes, as to occasion death in a few hours, or, in a few days, without any violent fever or local lesion. Scarlatina sine angina consists of an affection of the skin only, and is extremely mild—the primary fever being often little more than a febricula, unaggravated by the cutaneous eruption. There is also a scarlatina sine eruptione, which Dr. Sims was the first to remark. In this form the specific action of the poison is limited to one tissue, or to the mucous membrane of the mouth and fauces, the cutaneous exanthema being wanting. The angina, however, in no respects differs from the faucial affections of the scarlatina mitior and gravior. The danger is equally great as in the other varieties.

The mucous and cellular tissues of the lungs are seldom inflamed in scarlatina mitior.

Scarlatina Gravior (Maligna of Willan.)

"The specific actions of the poison in this form of the disease are the same as in scarlatina mitior; but the symptoms, both local and general, are more severe, the tertiary affections more frequent, and consequently the disease is more grave, and the danger more formidable.

The more remarkable symptom which distinguishes this form of the disease is the state of the tonsils. In the scarlatina mitior it has been stated that the tonsils are greatly enlarged, of a bright red, and the ulcers comparatively superficial; but in this severe form the tonsil is less swollen, but more gorged with blood, more livid in colour, while the ulcers are foul, deep, and burrowing.

The throat being less swollen than in scarlatina mitior, the absolute difficulty of swallowing is less, but the pain is greater, and the constant rejection of fluids through the nose shows how seriously the pharyngeal membrane, as also the glottis and epiglottis, are involved in the disease. It is difficult in many instances to examine the throat, for the tongue is often so tender that the slightest touch produces excoriation. The secretions from the mouth are more copious than in scarlatina mitior, and generally impregnated with the offensive sordes of the sloughs. The sloughs also are much more slowly detached than in scarlatina mitior, and when at length they are separated, an ulcer follows with a ragged edge, a foul and dirty base, and into which the finger may be thrust. These ulcers are slow to granulate, and only heal after a long, and sometimes fearful struggle; often they spread in every direction, and the parts vesicate and mortify previous to the death of the patient.

If the throat be the principal indication of the severity of the disease, the eruption affords also some peculiarities; the appearance of the cutaneous eruption is often later by some hours, and when it does appear its colour is darker and more livid, its duration more uncertain, and its distribution more capricious than in scarlatina mitior. Willan states, that he has seen it delayed till the third day, and Heberden, and Withering, have seen it delayed till the fourth day of the primary fever. The eruption also is less universal, and comes out more partially, or in scattered patches, especially about the back, the neck,

the breast, and the joints. In some instances it is so fugitive that it becomes evanescent a few hours after it has appeared, returning perhaps at the end of a week, and then continuing only for two or three days. In one case Willan says it appeared for the third time, or on the seventh day from the second attack, and remained for two days.

The primary fever is usually longer than in scarlatina mitior, and sometimes precedes the eruption by three or four days. Its symptoms are more violent, and the delirium commences earlier, and is more frequently accompanied by stupor, coma, or convulsions. During the primary fever, and perhaps also during the eruptive fever, the tongue is white, but on the decline of the eruption it often changes to brown or black, or else is dry, glossy, and chapped, and then the elongated red papillæ, so remarkable and so salient when the tongue is white, disappear. The brown tongue stage is accompanied by all the phenomena of the similar stage of typhus, as low muttering delirium, subsultus tendinum, muscæ volitantes, involuntary motions, affections of the urinary bladder. From this state the patient may recover, but often when all danger seems passed, the inflamed nasal membrane discharges its fatal ichor, and causes ulceration and mortification of the mouth or cheek. In other cases, the sudden sphacelation of the whole or part of a limb terminates the patient's existence." 140.

The connexion between the gravity of the fever and the severity of the local lesions here apparent, is often wanting, especially in children. Of the tertiary actions of the poison, dropsy is amongst the most remarkable. It usually occurs about three weeks after the commencement of scarlatina. The proportion of cases in which it happens, is not ascertained. It is not the mere result of debility.

"The dropsy thus produced is usually limited to a disordered function of the cellular or serous membranes, but in a few cases it is preceded by inflammation of the pleura or peritoneum, and in either case languor, peevishness, constipated bowels, sickness and vomiting, generally precede it by several days." 141.

The œdema generally begins in the face, and often attacks no other part. When more extended, it attacks the hands oftener than the feet. The trunk, however, often becomes anasarcaous, with effusion into the abdomen, or even the chest and head, though not very frequently. The urine is, at first, scanty and turbid, with frequent micturition. Afterwards it becomes copious, though still turbid. The chemical properties are altered, and heat or nitric acid shews albumen. The first appearance of œdema is accompanied by quickness of pulse, and the state of urine above-mentioned; and these are the chief phenomena; but the danger is greatly increased if effusion take place into any of the cavities, especially of the brain.

"When the ventricles of the brain are the threatened seat of effusion, the progress of the disease is so rapid that the symptoms often greatly differ from those which are seen in the more customary attacks of idiopathic hydrocephalus. The following case is an excellent exemplification of this difference. A girl eight years old, on the morning of the third day of the disease, complained of headache, which in the course of the day became exceedingly violent. In the evening she was seized with convulsions, which from the report of her mother continued for nineteen hours with scarcely any intermission; they then ceased, but returned in two hours; in this interval it was discovered that she was blind, and that the pupils were much dilated. The convulsions afterwards returned, and continued thirty-six hours, when the patient was again blind for eight hours after they had once more subsided. The œdema, which was confined to her

hands and face, disappeared, while the convulsions were present. This child recovered." 143.

The next source of the greatest danger is effusion into the chest or substance of the lungs. This form is generally preceded by anasarca, and, the chest is sometimes filled with remarkable celerity. A man in St. Thomas's Hospital filled so rapidly that he died before any medicine could be got to act. The œdema is often so immense, that the appearance of the patient is frightful. Infants and very young persons are almost the only sufferers from dropsy *post scarlatinam*.

We need not dwell on the *diagnosis* between scarlatina and measles. The *prognosis* is very uncertain, the mortality so much depending on the character of the epidemic, and the constitution of the individual, and even of the family. The prognosis is only grave when particular symptoms are present.

"The prognosis is unfavourable if the delirium commences, as it frequently does in children, and sometimes also in adults, a few hours after the seizure. In these cases the child often dies on the third or fourth day, and the adult on the eighth or tenth.

The tongue becoming brown, or a clean tongue with a rapid fluttering pulse are unfavourable symptoms.

A sudden fading of the eruption, or its changing to a livid colour, are symptoms of danger.

The danger of scarlatina is also greatly increased during dentition. Pregnancy also adds to the danger, as the woman frequently miscarries. The prognosis is also extremely grave when it attacks women immediately after parturition." 145.

"The fauces becoming livid under any circumstances, or an acrid discharge from the nostrils, or else the formation of an extensive abscess of the neck, accompanied with severe purging, are all unfavourable symptoms.

The appearance of mortification in any part is commonly, but not universally fatal.

Affection of the joints is a grave, but by no means a fatal symptom.

The danger attending dropsy succeeding to scarlatina varies according to the season, to the part affected, and perhaps to the treatment. When the head or chest is affected the prognosis is always grave, and the chances are few of the patients recovery. Dr. Cullen, when speaking of this form of dropsy, seems to consider it as of easy cure, but Plenciz and Hamilton state, that it had been more fatal in their practice than the primary disease. Mr. Wood was so fortunate as to save eight out of nine; but at the London Foundling Hospital in 1834, three were attacked, and they all died." 146.

TREATMENT.—In this disease the fever is intense beyond that of almost any other disease. The skin is inflamed—the fauces ulcerated—and supuration of the joints occasionally takes place. As the inflammatory symptoms are very formidable, the question occurs, is the disease to be treated like other phlegmasiæ? Bleeding was adopted in most countries, when the disease first broke out—and with disastrous results, according to the testimonies of those times. In the hands of Morton, venesection was attended with pernicious consequences, though he recommends it. "I have seen says he, 300 die weekly, suddenly suffocated in the second stage of the fever, and while labouring under angina or pneumonia." This is enough. Huxham abandoned venesection, and took to bark. In 1763, Dr.

Watson resumed the practice of Morton, but with very indifferent success. He lost about a sixth part of his patients. In our own times, Dr. Southwood Smith is the most strenuous advocate for general bleeding in scarlatina.

"After a decided impression has been made upon the vascular excitement by general bleeding, the application of ten or twelve leeches is of sovereign efficacy." 148.

But according to the testimony of Dr. Tweedie, out of 60 admitted into the Fever Hospital, under Dr. Smith, ten died—or about one in six—which is a very large proportion. Dr. Tweedie also adds, that instances of pleuritis, peritonitis, and synovial inflammation, were frequently observed. The amount of direct evidence against bleeding is great, but the writers rather allude to the general want of success, than to specific facts in support of their assertions. The comparative results of the venesectionary and non-venesectionary practice, however, may be gathered from the following statements.

"Dr. Sims states (p. 417), that in the year 1786 he treated upwards of 200 patients, and that out of that number he lost but two. This treatment was by gentle laxatives, mineral acids, and occasionally a little wine.

In the year 1804 scarlet fever broke out at Heriot's Hospital, in Edinburgh when Dr. Hamilton had fifty of the boys placed under his care, and of these three only died, and those of the secondary symptoms, or dropsy, and so rapid was the watery effusion that it filled the cellular membrane, and inundated every cavity within thirty-six hours from the attack, and the boys died labouring under symptoms denoting ascites, hydro-thorax, and hydrocephalus. In the treatment 'I employed purgative medicines fully. The effect was favourable; the fæces were hard generally of a black or greenish colour, and fœtid, and sometimes of the colour and consistence of clay, and less fœtid. In proportion to the evacuation of these fæces relief was perceptible.'

In the year 1820 scarlatina broke out at Alford, in Aberdeenshire, and out of 160 cases treated by Dr. Murray, only sixteen died, three of them women, immediately after delivery. This appears to have been a severe form of the disease, and was in the latter stages attended with 'a swelling of the wrists and hands, and less commonly of the knee joints, and other articulations; attended with much pain, and a feeling of the want of the power of motion. In the treatment bleeding was but rarely practised.' (P. 347.) 'Purgatives were not omitted, but I was somewhat disappointed in the degree of benefit derived from them. Emetics were frequently employed, but they only gave relief to the throat, obstructed by swelling or mucous, and their effect in this way was generally very great.' 'Lastly, however, they have been exhibited only in very urgent obstructions of the throat, for in a few cases they left distressing and long continued sickness, and I think I have known them increase the tendency to sensorial derangement.' The affections of the head were met by shaving the scalp, blistering the nape of the neck, putting sinapisms to the feet, and warm fomentations to the legs. The affections of the joints were commonly very distressing, but were in general removed by warm fomentations; stimulants were not used till late, and were generally unsuccessful, though he admits there are cases in which they are admissible.

In the year 1832-3 scarlet fever again broke out at Heriot's Hospital, when forty-five of the boys were seized, and placed under the care of Dr. Hamilton and Mr. Wood, and only one of the forty-five died, although nine fell ill of dropsy. The treatment (p. 37) of the disease, in its primary form, was extremely simple. In some of the earlier cases emetics of ipecacuanha were

administered at the commencement of the complaint, but in the latter cases purgative medicines were used in preference, and repeated almost daily, till the fever had subsided, when they were continued at intervals, more or less short, till the patient was considered perfectly cured. The purgatives employed were compound powder of jalap, jalap and calomel, supertartrate of potash, inf. sennæ, Epsom salts, and compound colocynth pills, varied according to circumstances.

In 1834 scarlet fever prevailed also at the London Foundling Hospital, and upwards of 100 of the children were seized with it. Out of this number only three died, and those of the secondary affection, or of dropsy. The treatment in this case was principally by mineral acids, small quantities of wine, jellies, and a nourishing, but antiphlogistic diet.

Such are the results that have been obtained by the practice of bleeding, as well as by abstaining from it, in the cure of scarlet fever; and if we compare them, the results will stand thus:—

Of 121 treated at the Foundling Hospital in 1786 by bleeding 19 died.
— 60 London Fever Hospital in 1829 . . . 10 —

181

29

Or nearly 1 in 6.

While of 200 treated by mineral acids and wine, &c. 2 died.

— 160 purgatives and emetics 16 —

— 50 ditto 3 —

— 45 ditto 1 —

— 100 mineral acids and wine 3 —

555

25

Or nearly 1 in 22.

It seems therefore proved, that one in six has died after bleeding, while only one in twenty-two has died after a milder, if not a directly opposite mode of treatment; and the conclusion which inevitably follows is, that the chances of recovery are diminished by the practice of bleeding in the ratio of nearly four to one, as compared with the chances supposing the patient not to have been bled." 152.

This bad success led to an extensive use of bark in scarlatina, its advocates enumerating the names of De Haen, Sauvages, Kennedy, Johnston, Huxham, Cullen, Clarke, Perceval, &c. The late Dr. Powel uniformly treated scarlatina with bark in Bartholomew's Hospital, whatever was the stage or the symptom of the disease!! It is stated by our author that all the cases thus treated recovered! Credat Judæus. Dr. Witheringham gave bark a fair trial at Birmingham, but with very different success from that observed by Dr. Powel. The following is the attempt of Dr. Williams to reconcile conflicting testimonies, and to establish, if possible, "some general rule by which this always greatly complicated, and too often fatal disorder may be best combated."

"The scarlatina sine angina is a mild form of the disease. It is sufficient to confine the patient to the house—to strictly enjoin a milk diet—to regulate his bowels, and above all things to avoid, according to the precept of Sydenham, the nimia diligentia medicorum, for no other medicine is necessary than gentle laxatives to regulate the bowels. The disease thus treated is uniformly mild, and when the rash declines, the fever subsides, and the disease is at an end.

The treatment of the scarlatina sine eruptione is the same as that of the two following varieties, or that of the scarlatina mitior and of the scarlatina gravior.

The scarlatina mitior is a form of the disease, it has been stated, which differs from scarlatina gravior principally in the circumstance of the greater swelling of the tonsils and uvula, of their being more superficially ulcerated, and indeed from their presenting altogether an inflammation of a more sthenic character.

It was in this form of the disease, 'when the tumefaction of the fauces was such that the patients could not swallow but with the utmost difficulty,' that Dr. Withering found sudorifics, cordials, and alexipharmics, 'have but little to do in the cure of scarlatina anginosa,' and that bark poured down with an unsparing hand produced such consequences 'as would not justify a continuance of its use.' It was in this form of the disease, when 'the most frequent appearance was a great swelling of the tonsils,' that Dr. Sims, who treated so successfully the other forms of the disease by gentle laxatives a draught containing twenty drops of sulphuric acid, together with a little wine—found if this cordial system was persisted in, or increased with a view to keep up a sinking pulse, many vexatious or even dangerous consequences ensued. For 'a new fever, often more violent than the first was raised—a great swelling and inflammation of the tonsils or parotids, with acute pain, came on, and the scarlet eruption appeared as copiously as before. I always,' he adds, 'subtracted somewhat from the wine and cordials, and quickly prohibited them entirely, diminishing at the same time the spirit of vitriol, which seemed now unnecessary, and giving rhubarb in smaller doses, and relying, during the period of amendment, upon gentle nourishing diet and broths as the only medicines, except when some particular symptom seemed to require attention.' (P. 423.) The accidents observed by Sims and Withering, and which led them to doubt of the efficacy of bark in any form of scarlet fever, only occur according to my observation when scarlatina mitior is treated by bark, for although the ultimate result is generally successful, still for a time the fever is often greatly aggravated, the troubles of the throat increased, the convalescence tedious, and consequently this form of the disease appears to admit of a middle course of treatment, or of one less debilitating than by general bleeding, and less powerfully stimulant than by bark or quinine.

The treatment then of scarlatina mitior is first to tranquillize the stomach and to allay its inverted action, when vomiting exists, either by small doses of the sulphate of magnesia, or by the effervescing draught, medicines which according to the state of the bowels may be exhibited every four or six hours. As soon as this object is effected, and it is ascertained that the tonsils have acquired the peculiar character which marks this form of the disease, and are enlarged and swollen, the practice is to relieve them by local bleeding, and twelve to fifteen leeches should be applied to the throat and allowed to draw freely. The trifling loss of blood thus sustained does not impair the general strength of the patient, while it greatly reduces the swelling of the tonsils, and prevents their becoming permanently enlarged. Another advantage is also gained by the application of leeches to the throat, namely, that they relieve the head and tranquillize the delirium, for it is a law of diseases depending upon morbid poisons, that by relieving the part specifically acted upon we relieve the brain. A very marked instance of this twofold relief was lately observed in a young woman of twenty years of age, who laboured under scarlatina mitior, accompanied with severe headache and very active delirium. These symptoms were attempted to be relieved by the repeated application of leeches to the temples, but without success. A similar application of leeches was now made to the throat, when not only was the affection of the tonsils relieved but the delirium immediately subsided. The relief obtained in this case was remarkable, and as a general principle it follows in similar instances. When the disease is severe it is occasionally, but not often, necessary to repeat the leeches.

The tonsils having been relieved, the fever may now be permitted to run its course little influenced by medicine, and the patient only refreshed by the

occasional exhibition of the saline draught, so grateful to his parched mouth and feverish state. For if in these cases we stimulate the patient we only bring back the tumefaction of the tonsils; while, on the contrary, if we take more blood, we hazard the producing the more serious accidents incident to scarlatina gravior. The medicines, therefore, that have been mentioned should be persevered in till the disappearance of the eruption, the healthy granulations of the throat, and the decline of the fever, give a certain evidence of a state of convalescence. At this point, perhaps, some tonic medicine is desirable,* and prepares the patient once more for the fullest enjoyment of health. This is the most successful treatment of the scarlatina mitior.

The scarlatina gravior is characterised by the less swollen state of the tonsil—by its being more gorged with blood—by its greater lividity of colour, and by the ulcers being deeper and more spreading, and by the slough being fouler than in the former variety. In this disease also a greater tendency exists in different parts to run into mortification. These different circumstances seem to point to the necessity of adopting a more stimulating plan of treatment, and one more calculated to support the powers of the constitution. The danger, indeed, of permitting this disease to run its course without the aid of medicine may be instanced by the following cases:—A child of about four years of age was seized with scarlet fever. The disease was not interfered with, but permitted to run its course without the aid of medicine. On the decline of the eruption, a discharge took place from the nostrils, the lip inflamed became gangrenous, and the child died in consequence. A man was received into St. Thomas's Hospital with the eruption out upon him, and attention was alone paid to the state of his bowels. In a few hours the right lower extremity mortified from the heel to the hip, and it is unnecessary to state that he also died.

A tonic treatment, therefore, appears necessary in this form of scarlatina, and since it has been proved that bark or quinine is not a specific remedy, it is open to us to adopt either a treatment by that medicine, or else by any other mineral or vegetable tonic we may think preferable. When the sulphate of quinine is preferred, the usual dose for an adult is five grains every four or every six hours, and as the powers of easy deglutition are greatly impaired, it is best exhibited out of the infusion of roses, in which it is dissolved by aid of the acid contained in that preparation. In children, of course, the dose must be diminished in proportion to their age. This medicine, when it sits lightly on the stomach, is all that is essentially necessary in the cure of this form of the disease, nor should the presence of delirium prevent its exhibition.

Still it frequently happens that quinine is rejected by vomiting, or that in many instances it is impossible to induce children to take so bitter a medicine without using a most distressing degree of violence, and consequently we are often obliged to look for an equivalent; and it has been proved, by frequent experiment, that wine may be substituted for quinine, both in the child and the adult, without diminishing the efficacy of the treatment, or endangering in any degree the result. Indeed wine being much more easily digested than quinine, the substitute is not only more agreeable, but to a certain extent more advantageous. The quantity for an adult is from four to six ounces, and in the child about half that quantity in twenty-four hours. There may indeed be cases in which it may be necessary to increase those quantities, but they are rare. The wine may be either port or sherry, and is best taken with sago, or drank diluted with water, and should be exhibited in small portions at short intervals in the course both of the day and night. The existence of delirium does not contraindicate the treatment by wine, for most commonly that symptom is merely a

* "R. Infusi Aurantii ꝓ iss., c Ræ Aurantii ꝓ iss., or from five or ten grains of salicine ter die; or perhaps, what is still more agreeable, the patient may be indulged with three or four ounces of wine daily."

derangement of function, and may be disregarded. The wine should be continued till the patient is decidedly convalescent, and even perhaps for some time afterwards. But while pursuing this treatment it is necessary that the patient's bowels should be strictly attended to, and be gently and daily relieved." 158.

When inflammation takes place into the joints, stimulants are to be avoided, though bleeding will seldom be necessary. A brisk action is to be kept upon the bowels, and hyoscyamus may be given to allay pain.

The effusions into the cavities are serious matters, and our author strongly recommends bleeding as soon as œdema appears in the face, especially if accompanied by headach. The rest of the treatment consists in brisk purgation, the choice of purgatives being left to the practitioner. Supertartrate of potash, in $\mathfrak{zj}$. doses, is a favourite of our author's. In our own practice we have seen better effects from small doses of elaterium. When the fluid is evacuated, Dr. W. recommends salicine, "which is an excellent tonic and diuretic, and may be given in five-grain doses three times a day, or else ten grains of the tartrate of iron." Emetics and purgatives are not commended by Dr. W., and neither is cold affusion, as employed by Dr. Currey. Ablution or sponging of the face and hands by cold or tepid vinegar and water, is a practice grateful to the patient, though, he thinks, of little importance as influencing the final result. Blisters are condemned, and gargles are inapplicable to the cases of children. Slightly acidulated ones are all that Dr. W. uses till the active stage has passed, when stimulants may be employed. The best is probably the acidulated infusion of roses sweetened with honey or sugar.

As to prevention, our author has no faith in *disinfectants*—except ablution and ventilation. As for Hahnemann's Belladonna theory, it is justly scouted by our author, as one of the tom-fooleries of homeopathy. If any effects ever resulted, from this or any other preventive or disinfectant, they have, in all probability, been the products of moral courage or sense of security—powerful means of resisting contagion of every kind.

We have thus given a very full analysis of this section of Dr. Williams's work, because the subject is important—the matter practical—and the author experienced. If these reasons are not satisfactory, we know of none other more valid.

LECTURES ILLUSTRATIVE OF CERTAIN LOCAL NERVOUS AFFECTIONS. By Sir BENJAMIN C. BRODIE, Bart. F.R.S., Sergeant Surgeon to the King, and Surgeon to St. George's Hospital.

[Concluded from the last Number.]

In the last number of this Journal, we presented a full account of the two first Lectures contained in the volume before us. They were devoted to the laws of local nervous affections, and to the various forms which they affect. We were unable to enter on the analysis of the third lecture, and were compelled to defer it till the present opportunity.

PATHOLOGY OF HYSTERIA

It is to this that Sir Benjamin first adverts, and we discuss a question which must naturally interest us, and is practically an important one. Do the varied and heterogeneous symptoms which have passed before us, admit of being referred to a common cause, and is that common cause the same state of system which gives rise to the ordinary fits of hysteria?

This question may readily be answered in the affirmative, and more particularly for the following reasons; 1, because patients affected with these local nervous symptoms will, in almost every case, be found to have suffered more or less from hysteria; 2 because a wide acquaintance with these cases, will shew them linked together and constituting a connected series: 3, because morbid anatomy exhibits in all the same negative results.

It is evident, of course, that the source of the symptoms must be sought in some peculiar condition of the nervous system. What is it? Dissection does little to solve the riddle, and the convulsions of hysteria, like those of chorea, and like the spasms of tetanus and of hydrophobia, are not found to depend on such alterations of the brain of the chord, or of the nerves, as admit of appreciation by our senses.

"I have in several instances," observes Sir Benjamin, "examined the parts to which hysterical pains had been referred; and in one very aggravated case of the kind, I made a careful dissection of all the nerves by which they were supplied, but I have never been able to discover in them any thing different from what belonged to their natural condition. But every part of the body has its corresponding point in the brain, and the greater number of them have their corresponding points in the spinal chord also. Does the examination of these organs lead to any more satisfactory result? The best proof that it does not do so is furnished by the following circumstance; although so many die of other diseases, who have suffered from hysteria also, and the opportunities of examining the bodies of hysterical patients after death are therefore sufficiently numerous, yet the works of the best morbid anatomists contain no observations whatever on the subject. I have had the opportunity of instituting post mortem examinations in three cases, in which the hysterical affections were of so aggravated a kind as to be directly or indirectly, the cause of death; and you shall know the result. In one of them, the patient laboured under a very severe hysterical pain in the side, and was liable, among various other hysterical symptoms, to fits, in which she was scarcely conscious of her own actions. It must have been in one of these attacks that a great number of needles were introduced into one of her legs, which afterwards occasioned much inflammation and effusion of serum into the cellular texture. The patient died, and the body was most carefully examined, but no morbid appearances of any kind could be discovered in it, except what belonged to the oedematous state of the leg. Another case is one to which I have referred already, in which the patient having long laboured under an hysterical retention of urine, the bladder was found enormously distended, of a black colour, the mucous membrane and muscular tunic being at the same time much attenuated. This patient was an unmarried female twenty-nine years of age. Having been previously indisposed for a considerable time, she was supposed to have sprained her wrist in lifting a heavy saucepan. From this time she was never free from pain, in the situation of the outer part of the lower extremity of the radius. The pain extended up the forearm, and downwards on the side. In November, 1814, about a month after the occurrence of the accident, she was admitted into the hospital. At this

time the most careful examination could detect no alteration in the appearance of the limb, but she complained of a constant and intense pain, which extended from the supposed seat of the injury downwards to the fingers, upwards to the shoulder, and again downwards to the spine and sternum. She had great oppression and difficulty of respiration, occasional twitches of the muscles of the face, and any sudden motion of the hand aggravated all these symptoms, and then threw her into a state approaching to that of syncope; in which she was almost unconscious of all that happened, lying with her eyes wide open, and at last recovering with an hysterical sobbing. Her pulse was feeble, beating 120 times in a minute. Forty ounces of urine were drawn off from the bladder, but without any relief as to the other symptoms. The tongue became black and dry; the pulse more feeble; the belly tympanitic; the alvine evacuations being of a dark colour. Then there was hiccough and vomiting: she became weaker and weaker, and died after the lapse of fourteen days from the time of her admission into the hospital. After death the brain and the thoracic and abdominal viscera were very carefully examined, but no morbid appearances were discovered in any one of them, with the exception of the peculiar condition of the bladder, which was described formerly, and two ulcers of the mucous membrane of the ileum, each not more than half an inch in length, but occupying almost the entire circumference of the intestine.

The female, who was the subject of the third case had laboured under a paralytic affection of the lower limbs (*paraplegia*), which Dr. Seymour believed, with good reason, to be connected with, and the consequence of, hysteria. A practitioner whom she consulted, however, thought it advisable to have recourse to repeated blood-letting and other methods of depletion. The result was, the formation of extensive sloughs of the nates and of the soft parts covering the ankles. The patient was now admitted into the hospital, in a state of great exhaustion, and soon afterwards died. The brain and spinal chord were most carefully examined, in the presence of many of you who are now present, but it could not be discovered that they differed, in the smallest degree, from their natural condition; nor were there any signs of disease in the thoracic or abdominal viscera." 69

If the nervous system in hysterical patients presents no appreciable change of organization, it does not therefore follow that it is absolutely sound. It would be absurd to suppose that it is constituted precisely as it is in healthy females, although we must admit our incapability of forming any definite ideas upon the subject. Our author supposes that an imperfect development of it may lay the foundation of aggravated hysterical affections, and on such a hypothesis he thinks we may explain the connexion of hysteria with the habits of early life—its prevalence in particular families—and the difficulty of totally eradicating it after it has once been established in the system.

It appears to be certain whatever may be the condition of the nervous system which disposes the patient to become affected with hysteria, the latter is developed under the influence of causes which impair the bodily health. Whilst the female continues strong and healthy, no hysterical symptoms appear: but if she is weakened by bodily illness, by debilitating treatment or by moral agencies of a depressing character, hysterical affections are the consequence, and they attack one part of the body or another, as circumstances happen to direct them.

"This view of the origin and nature of hysterical affections derives some confirmation from a circumstance which I have had frequent occasion to observe; although it has not, as far as I know, been noticed by pathological writers.—

In those who are much disposed to them, there is an evident weakness and laxity of the tissues, independently of what may be supposed to belong to the tissues of the nervous system. Thus there is a peculiar looseness of the joints; sometimes existing to such an extent that they are liable to a kind of subluxation (a slipping in and out, as the patient terms it), without any laceration of the synovial membrane or ligaments. I have known several cases in which a patient, on making some sudden exertion, has experienced a sensation as if some muscular or ligamentous fibres had given way; and, in some instances, a severe nervous pain, referred to this and the neighbouring parts, has remained for a long time afterwards. It is not unusual for the smaller blood-vessels to burst, so as to occasion slight hæmorrhage; although there is no actual disease in the bleeding part. This occurs most frequently with respect to the vessels of the mucous membranes. The disposition to hæmorrhage, however, is not peculiar to these textures. In a patient concerning whom I was consulted with Mr. Mawdsley, there had been repeated hæmorrhages from the ears.

These things must be regarded as indications of want of physical power in the system, and such is the prevailing character of hysterical disease; most distinctly marked, of course, in the most aggravated cases of the kind. A large proportion of hysterical patients suffer from cold hands and feet, have a feeble contracted pulse, a small appetite for food, and are wearied by very small exertions; they are more liable than other persons to lateral curvature of the spine. In some instances, and more especially in the parts which are most exposed to the external temperature, or at the greatest distance from the vital organs, the point of the nose, for example, and the ankles, the circulation is so weak that they assume at times a purple appearance, followed by vesications, and even by a thin slough." 72.

As Sir Benjamin remarks, these last-mentioned symptoms are a proof of an imperfect performance of the functions of the nervous system—at least they correspond to what is observed after injuries of the spinal chord, or even of the nerves.

When we pass to the treatment, it seems almost to follow as a consequence of the preceding observations, that much may be done by a well regulated system of physical and moral education, to mitigate the hysterical disposition in those who appear to inherit it, and to prevent its development in others, who are not so hereditarily and strongly predisposed to it.

To the medical profession is due the alleviation of what we might almost designate that penal code, under which young females were till lately educated. Physicians and surgeons have denounced so strongly the system of confining girls to heated rooms, of insisting on an inordinate quantum of study, and of debarring them from the enjoyment of the fresh air of heaven, and from that active exercise which nature has intended the young of both sexes to indulge in, that parents and teachers have taken the alarm, and a more rational as well as humane mode of discipline has been adopted.

Sir Benjamin Brodie insists on the propriety of medical men explaining to parents in the higher classes of society, the tendency of a strained and extravagant cultivation of the mental faculties, to engender hysteria in their female children. He justly observes that, after all, it is not cramming the mind with a large amount of facts or speculations, that can be regarded as the highest sort of mental culture. That is to be obtained by exercising the mind in right habits of thinking, and by enforcing the perception of those moral truths which display the necessity for self-control, and teach us how to practise it.

We fear, however, that constituted as society is, and as all civilized society must be, no system of education, no improvement of her health, no training of her mind, can be expected to do away with the tendency of the young female to hysterical disorders. They are too much dependent on the state of the uterus, and on the non-performance of its natural functions, to permit us to indulge the hope that hysterical disorders will not continue to afflict the sex which has to pay the tax of protracted and compulsory celibacy. If males were doomed, as females are, to pass the best years of their lives in absolute chastity, we doubt whether even their tougher nervous system would not often exhibit the convulsions of hysteria, or the thousand and one varieties of nervous symptoms, which we now see almost solely in woman.

Moral management is most effective in preventing the development of hysterical disorders; the physician or surgeon is seldom consulted until they are actually developed. The great principle of treatment then, consists in attempting to discover what organ or what function is disturbed, and in endeavouring to set that right. Nothing can be worse, yet unfortunately nothing is more common, than the empirical treatment of hysterical affections. One patient will have scanty menstruation, and all the signs of debility—another will be too plethoric—a third will have chronic inflammation of the uterus—a fourth will have little obvious physical derangement, and be only morally at fault. It surely cannot be right or rational to treat all these patients in the same way—to give them all the compound decoction of aloes or Griffith's mixture—to make them all take active exercise, or no exercise at all. Yet unfortunately, there are medical men who are too apt to look on hysteria, as hysteria, and to have one treatment for the one malady.

Perhaps the only remedy which is really applicable to every case is engagement of the mind. The more that can be diverted from brooding over real or imaginary miseries, the better the chance of the patient's recovery. It is not amusement only that is necessary—it is occupation that is requisite. A judicious combination of both will probably do more in the majority of cases, than all the drugs in the Pharmacopœia.

Sir Benjamin declines as trite and needless the consideration of the medical treatment of hysteria. What few suggestions he offers, will be found in the following extract.

"The whole class of tonic remedies, especially steel, quinine, sulphate of zinc, and ammonia, may, under certain circumstances, be employed with advantage. So also, it is of importance that the patient should live on a generous diet; that she should take exercise out of doors; that she should live in the pure air of the country rather than in that of a crowded city; and that her mind should be agreeably occupied, without being exhausted by great exertions. Nothing tends more to aggravate the disposition to hysteria than the tedium and ennui of a life without occupation; when the mind is, as it were, thrown back upon itself, brooding over imaginary misfortunes, and creating for itself objects of anxiety.

The use of what are usually called anti-spasmodic remedies, especially valerian and assafœtida, is indicated, not where there is merely a liability to hysterical symptoms, but where these symptoms are actually present. Those tonics which are useful in preventing these symptoms, are useful in the removal of them also, especially where the disease assumes a chronic form, as it generally does in the cases which fall under the observation of the surgeon. Here, also,

I have in several instances known much advantage to arise from a long-continued use of the sulphate of copper administered in pills, in small doses. Nor must we overlook another important rule of practice. There is often some particular circumstance in the state of the system at the time, which operates as the immediate exciting cause of the hysterical symptom, and which medicine may remove. For example, in one individual there may be a furred tongue, and a costive state of the bowels; in another, deficient menstruation; and purgatives and emmenagogues may be administered with advantage, either separately or in combination. Again, it is not unusual in aggravated cases of hysteria to find the urine depositing a large quantity of lithic acid, in the form of sand; or the urine may be voided high-coloured, depositing a pink amorphous sediment, abounding in the lithate of ammonia; and in either of these cases the exhibition of alkalies, combined with alterative doses of mercury, purgatives, and a regulated diet, will contribute to produce a cure, the unhealthy quality of the urine seeming to be the cause, rather than the effect, of the hysterical affection." 77.

Sir Benjamin, no doubt from delicacy, makes no allusion to one remedy, more potent than all that have been mentioned—marriage. It is astonishing how quickly, under its influence, symptoms will disappear, which have baffled all management and medicine. When hysteria depends, as it usually does, on that state of system induced by constrained and unnatural celibacy, the due performance of the functions of the uterus might, *a priori*, be expected to lead to the restoration of health. In many instances, the rapidity of the effect is striking, and girls who seemed a prey to the most serious maladies are all at once transformed into healthy and happy women.

It must be owned, however, that mere sexual intercourse is not always sufficient to allay those nervous symptoms which continence mainly contributed to cause. The female was intended to become a mother; and if the uterus and the ovaria are prevented from playing the parts assigned to them in pregnancy, hysteria in its many shapes is again liable to be conjured up. In such a case, we must of course endeavour to ascertain the nature of the obstacle to conception and gestation, and having ascertained it, to remove it. A fruitful source both of hysteria and of barrenness is chronic inflammation of the uterus.

Sir Benjamin offers a few observations on the surgical treatment of local hysterical affections.

These are sometimes relieved by friction with a stimulating liniment—by the application of a belladonna plaster—by a spirituous lotion applied tepid*—by exposure of the part to the vapour of hot water, especially in cases of that peculiar affection of the wrist and hand which has been previously described.†

"In those cases in which the limb to which the symptoms are referred is affected alternately with heat and cold, I have known the following plan of treatment to be attended with excellent effects. During what may be termed the hot fit, let a compress be applied wet with a cold spirituous lotion; and when the heat has subsided, and the limb has become cold, let a thick woollen stocking be drawn over it, and then an oiled silk covering over the worsted stocking, so as

* B. Mist. camph. ʒiss.; Spir. rosmarini ʒiss. M. ft. lotio.

† See the last number of this Journal.

to confine the heat and perspiration. When the cold fit has subsided, the oiled silk covering may be removed. This local treatment, however, should be combined with the exhibition of the sulphate of quinine, the use of which seems to be especially indicated by the intermitting character of the symptoms." 78.

Sir Benjamin deprecates local and general depletion, especially the latter. It may bring temporary alleviation—it entails ultimate debility and injury; for, what debilitates injures.

Blisters, issues, and counter-irritants of all sorts are open to one serious, indeed insuperable objection; they direct the patient's attention to the malady, while the object of the moral management is just the contrary. Thus, observes our author, in a case of hysterical neuralgia of the knee or hip, it seldom happens that any real amendment takes place while the patient remains confined as an invalid to her sofa. The pain may abate, but a sense of weakness follows, which disables her from walking more than the pain itself, and which for obvious reasons, goes on increasing in proportion as the confinement is of longer duration. The first step towards a cure is, that she should have sufficient strength of mind to begin to use the limb in spite of present suffering.

A question of much interest naturally presents itself—Can these nervous symptoms be alleviated by cutting off the nervous communication of the part with the sensorium, or rather by cutting off its principal channels. When we turn to what has been done in tic-douloureux and tetanus, we find little to encourage us in operations on the nerves. When we reason on the causes of hysterical affections, we find still less to induce us to anticipate benefit from local operations. If a patient has violent pain in one limb, in consequence of uterine disturbance, what guarantee have we, that its removal by a serious operation from that limb, may not be followed by its re-appearance in another? It is clear that, from the nature of the case, no such warranty is to be got. Sir Benjamin relates a case in which he divided the nerves supplying the affected part, without, as we shall see, obtaining much benefit.

"In a case which I have already mentioned, of a young lady who had a train of most severe hysterical symptoms following the accidental prick of her finger, I was induced (many years ago) to divide the digital nerves. This was effected by a circular incision, carefully performed, extending through the whole of the nerves, integuments, vessels, and cellular texture, to the bones laterally, and to the aponeuroses of the tendons, anteriorly and posteriorly. The result was, that the patient's sufferings were aggravated rather than relieved." 81.

The same objections, in *principle*, lie against the total removal of the part affected. We mutilate a patient without being enabled to assure her that the next week may not bring with it the necessity for other mutilations still. Before we say more on this important subject, we will introduce the following cases, which our author has brought forward.

"As long ago as the year 1818, I was requested to visit a lady in the country on account of a disease of the knee. I was led to believe that she had laboured under an inflammation of the synovial membrane, which had in a great degree subsided, but that the harder textures had suffered in consequence, and that the cartilages were in danger of being ulcerated, and I recommended a plan of treatment accordingly. Whether, with my present experience on the subject, I should have taken the same view of her case, I will not undertake to say, but the result was, that a material improvement took place in the first instance. After

some time, however, there was a manifest aggravation of all her symptoms. She suffered more than ever; so that she became anxious to undergo the amputation of the limb. I was now again consulted respecting her, but from the written accounts which I received, I concluded that the pain did not indicate the existence of any serious disease, and that the circumstances of the case did not justify so violent a measure as had been proposed. However, her wishes remained unaltered, and two surgeons of eminence in the country yielding to her entreaties, performed the operation. On dissection of the amputated joint, they were surprised to find that there was no collection of matter in its cavity; that the cartilages had disappeared on one spot, of very limited extent; and that there was no other mischief. The stump healed readily enough, but she obtained no relief. I had the opportunity of seeing her some months after the operation, suffering more than ever, with intense pain in the stump, and violent convulsive action of the muscles which move the thigh bone on the pelvis.

"Mr. Soden, of Bath, informed me of another of these cases, which fell under his observation, in which also the limb was amputated above the knee, but with no better result than in the case last mentioned. The symptoms attacked the stump, and the patient suffered as much after the operation as she had done before." 82.

So far as reasoning goes, amputation of a limb, or of any portion of the body, for 'hysterical' pain in it, is both absurd and cruel. It is absurd, because it does not remove the cause of the local malady; it is cruel, because it mutilates one of that sex to whom mutilation is a terrible calamity, and leaves her after all with every chance of suffering as much as she did before, in some remaining portion of her body. It is impossible, by any principle of reasoning or of common sense, to support the proposition, that when the fons et origo of these nervous disorders is in the uterine system, or in the general constitution of the nervous, amputation of a part to which pain may be referred can remove the cause of pain, that is, the disorder.

It may possibly be urged that in many instances, we perform operations for the abstraction of parts which have suffered from diseases essentially constitutional in character. It may be said that we amputate a scrofulous joint, or a cancerous breast, and that therefore we may amputate a "hysterical" limb. The analogy is not a just one. The scrofulous articulation, or the scirrhus mamma has become in itself a serious disease, and the tissues are so altered that their restoration to a healthy condition is impossible. Nobody would dream of removing a knee in a scrofulous child, unless the bones, the cartilages, and soft parts were so disorganized as to be incompatible with recovery, however the original constitutional taint were done away with. Nay, so much has the conviction grown on surgeons, that operations are to be avoided in constitutional complaints, that even in these very instances of scrofula and cancer, they are now comparatively seldom had recourse to—in these very instances in which the effect becomes in a great measure independent of its cause, and where reason does not scout the barbarous folly of wielding the knife.

If it should be found that some surgeons warmly support the propriety of operating in certain cases of local hysterical affections, we may possibly suspect, that they are imperfectly acquainted with the general laws and phenomena of those disorders. We may imagine that they have taken a partial view of them, and fixing their attention on some prominent features, have lost the general bearing of the whole. If those surgeons appeal to empirical experience, and triumphantly refer to cases in which

operations were successful, we may reasonably insist on a rigid scrutiny of all the circumstances, and we may endeavour to explain apparent success without abandoning those conclusions which seemed to follow from an accurate acquaintance with the malady.

1. Perhaps the most striking cases which have been adduced by those who advocate the propriety of operations are the following.

A. Mr. Mayo, in his *Outlines of Pathology*, has published the case of a young woman, whose knee he amputated on account of nervous pains. The stump healed. Soon after the stump was accidentally struck, and this slight accident was followed by pain in the part, exactly similar to that which had been referred formerly to the knee. Amputation was then performed a second time; but as the wound healed, the pain recurred, being again referred to the stump. Mr. Mayo then divided the sciatic nerve, below the edge of the *gluteus maximus* muscle. At first the pain was supposed to have been relieved, as after the former operations; but it returned on the wound being healed. Sir Benjamin at this time saw the patient, and the pain she endured was as severe as ever. Mr. Mayo, however, was not disheartened, nor was his patient at all disgusted with the knife. He removed the head of the thigh bone from the acetabulum, and up to May, 1836, she had had no recurrence of the pain. In the latter part of the Summer of that year we saw the patient, who applied to us for a ticket to the Margate Sea-Bathing Infirmary. It appeared that she had been under our own care in the first instance, that we had looked on the case as one of a hysterical description, and that we had discountenanced any very active measures. When she applied to us for a ticket for the Infirmary, she was apparently in good health, and declared that she had then no pain in the stump. But she had that expression of countenance so peculiar to hysterical patients, and in all probability from some very slight cause, or from no obvious cause at all, nervous symptoms might be set up, and be as violent as ever, in any part of the body to which accident should direct them. This, however, is conjecture. So far as the case at that time went, the last operation had relieved the patient.

B. "We are also informed," says Sir Benjamin Brodie, "that Sir Astley Cooper amputated the arm at the shoulder joint, on account of a neuralgic affection of a stump, and that the patient was permanently cured; and that a similar operation was performed successfully by Mr. Bransby Cooper. However, until we know more of these cases than is now recorded, it is impossible for us to determine whether they did or did not belong to the class of hysterical affections. Even if they did, the question still remains—how long did the patients remain under the observation of the surgeons afterwards—and was a cure really obtained, or was there simply a commutation of one hysterical affection for another?" 84.

Such are the main facts which have been cited in confirmation of the propriety of performing serious operations in cases of hysterical pains. Suppose we give them all the value claimed for them—suppose, for the sake of eliciting the truth, we look on them as really instances of cure. Are we to conclude that nature contradicts herself, and that while the whole history of these disorders seems to discountenance local operations, these are in reality of service? Or may we find that the contradiction is only apparent, and that the cures after operations may be explained without supposing them

to have materially contributed to their occurrence? In order to solve questions of such obvious importance, Sir Benjamin offers the following considerations:—

In estimating the value, not only of such operations, but of various other modes of treatment which have been supposed at one time or another to be useful in cases of aggravated hysteria, we are never to lose sight of the following circumstances:—1. *Hysterical symptoms frequently disappear at once, without any manifest cause for their disappearance.* Examples of this fact may be found among the cases to which I have had occasion to refer in the preceding lectures. A young lady, who had been for more than two years confined to the recumbent posture on account of an hysterical affection simulating disease of the hip-joint, recovered suddenly one night while in the act of turning in bed. Another young lady, in whom a long train of most severe hysterical symptoms followed an accidental prick of one of her fingers, after the disease had existed for a great length of time (if I am not much mistaken, for more than two years), recovered also. 2. *It still more frequently happens that recovery from hysterical symptoms immediately follows a forcible impression of any kind made on the nervous system.* Hence it is, that any thing may obtain the credit of having effected a cure in these cases. Moral and physical agents are alike in this respect. Sometimes one remedy may appear to be successful, sometimes another; and that which is supposed to be productive of the greatest benefit in one case, may never be useful afterwards.

I have already mentioned the case of a young lady who, having long laboured under an hysterical neuralgia of the hip and thigh, rendering her unable to stand, or even to walk, immediately lost all her symptoms on being thrown from a donkey which she was riding; and the following are only a few among many other cases, which might be adduced in confirmation of what has been just stated.

In the eighth volume of the Transactions of the Royal Medical and Chirurgical Society, Mr. Pearson has described the case of a lady who laboured under a nervous affection of the hand and fore-arm, shewing itself in the form of severe pain and spasms of the muscles, and she immediately recovered on the application of a stimulating liniment, which, containing oil of turpentine, produced a vesicular eruption over the whole person.

I was informed, on good authority, of the case of a young lady who had long laboured under a severe hysterical affection, attended with spasmodic contraction of the muscles of one of the lower limbs, and which symptoms left her suddenly, on the extraction of a molar tooth.

Many years ago, I attended a young lady on account of a painful affection of the instep, which I certainly did not understand at the time, but of which, with my present experience on these subjects, I am satisfied that it was hysterical neuralgia, and nothing else. She was attended by other surgeons afterwards, who, I believe, were as much perplexed as I was, as to the nature of the disease, and who, at all events, gave her no relief. At last, while suffering as much as ever, she was informed of some remarkable cures obtained by the use of the vapour bath and champooing, and she immediately went to Brighton, that she might make a trial of these remedies. The first champooing gave her great relief; the second completed the cure. I was consulted respecting her afterwards, labouring under a nervous affection of the arm and fore-arm.

"In the 'Christian Observer' for November, 1830, we find recorded the case of Miss Fancourt, who had long been unable to move in consequence of what was evidently an hysterical affection, simulating disease of the hip-joint, and was supposed to have been miraculously cured under the influence of the prayers of her spiritual adviser, leaving her couch at once, and walking down stairs to supper, to the astonishment of her family." 87.

When we reflect on the facts which a close investigation of hysterical affections elicits—when we consider, *first*, that the nature of the disorder discountenances the idea, that any local remedy can effectually remove it: *secondly*, that positive experience has shewn the inutility of operations in many instances: *thirdly*, that hysterical symptoms suddenly disappear without any obvious cause for their departure: *fourthly*, that they are often forcibly removed by any powerful impression on the nervous system: and *fifthly*, that operations are not harmless remedies, which, if they do no good are attended with no evil—when we reflect upon all these circumstances, we may perhaps pronounce, with little risk of prophesying falsely, that no well-informed surgeons will employ the knife in these cases for the future.

With a parting observation of Sir Benjamin Brodie's we shall take our leave of this subject.

"We need not pursue this part of our inquiries further. To you who will soon be engaged in the practice of your profession, what I have now stated will be sufficient to impress your minds with a proper degree of scepticism, and to prevent you being misled by the caprices of these strange disorders. With respect to the great majority of society, whose minds are not accustomed to these investigations, and who do not know the difficulty of obtaining exact evidence as to the operation even of the remedies in common use, I feel that it will be almost a waste of time to endeavour to enlighten their minds on the subject. They will always be disposed to listen to, and to believe, the histories of the marvellous cures of hysterical affections—and with them conjurors of all kinds, from Prince Hohenlohe and the professors of animal magnetism, down to the most vulgar impostors, will always be the successful rivals of those practitioners who have studied their profession as a science." 88.

These few words contain some valuable hints for the profession, and a sarcastic estimate of public discernment. The grosser the imposture, the more greedily it is swallowed, both by titled and untitled fools, and the patronage of impostors shews the prevalence of ignorance, weakness, credulity, and fanaticism, in all classes of society, but more particularly in the higher. We are almost disposed to agree with our author, and to abandon in despair the attempt to reason on medical matters with a Public which has countenanced in untiring succession all sorts of quackery and quacks. Yet the fate of homœopathy may give us some encouragement, and induce us to believe that arguments, and appeals to their common sense, are not totally thrown away on the middle classes. The case of the aristocracy is hopeless.

In conclusion, we would strongly recommend these Lectures of Sir Benjamin Brodie's. The lessons which they read are valuable, and the practical surgeon who lays them to heart will find them of essential service in many an intricate case.

THE ECONOMY OF HEALTH, OR STREAM OF HUMAN LIFE, FROM THE CRADLE TO THE GRAVE, &c. By J. JOHNSON, M. D. Second Edition, greatly enlarged. Feb. 1837.

As no review of this work can be inserted in this Journal, a few extracts, without comment, may be fairly allowed. The following is the only one we shall present at present.

"The most important feature of the Ninth Septenniad is, the **GRAND CLIMACTERIC**—an epoch that has been regarded, in all ages, with something like mysterious awe, as the most critical in human life. Popular opinions of this kind are generally based on observation, however inaccurate, and are rarely the offspring of mere fancy, or a superstitious combination of numbers. *Nine times seven* forms a remarkable—indeed an appalling multiple, and very few can apply it to themselves, without feelings of the penseroso kind!

But the '**GRAND CLIMACTERIC**' is not merely a popular superstition; it has engaged the attention, and occupied the pen of a modern physician of great distinction. As the Essay was written some twenty years ago, it wants that development which Sir Henry Hallford's further experience would have rendered more valuable. It is not my intention, however, to draw from any other source than the evidence of my own senses on this occasion.

The changes in the balance of the constitution which began to shew themselves rather unequivocally in the Eighth Septenniad, become but too conspicuous, as the age of 60 is touched, in a great majority of both sexes. The Ninth Septenniad is clearly the '*fifth age*' of Shakespeare, typified by the '*Justice*,' possessed of a portly corporation, '*with good capon lined*'—

'With eyes severe and beard of formal cut
Full of wise saws and modern instances.'

Where corpulency does not obtain at this period, a contrary state not unfrequently commences. The fluids of the body diminish in quantity—the softer parts shrink—and the solid parts, as bones, cartilages, ligaments, &c. become more condensed than ever. The vessels conveying the blood from the heart to all parts of the body, begin to partially ossify, and are thus greatly weakened at the junction of the indurated with the elastic portions, rendering them liable to give way from distention or pressure. The cartilages of the ribs being turned into bone, the chest loses much of its expansive and contractile capabilities, and the breathing is less easy, especially when the body is in motion. The joints grow stiff, and the muscles get flaccid. All the senses become much more obtuse—and the various appetites greatly diminished—some of them being almost annihilated. By short-sighted man this diminution of enjoyment, in the exercise of the senses and appetites, is keenly deplored, though it is wisely ordained by the Omniscient Architect. Were the appetites to remain unimpaired, while the material fabric is necessarily, but gradually breaking down, the weakened organs would be overpowered—and sudden death, or painful maladies would be the consequence. This is sometimes the case, even as it is, when the appetites are stimulated by provocatives, and the tide of enjoyment swells beyond the channels which were destined to confine it.

About this period, too, the teeth, in a vast majority of people, become deficient in number, and very inadequate to the important function of mastication!—while digestion, already weakened, is thus greatly embarrassed, by the additional labour imposed on the stomach. All the internal organs growing more

torpid, the secretions necessarily get more scanty. The skin itself becomes more dry, shrivelled, and wrinkled—the veins are enlarged and blue, slowly propelling the vital current towards the heart. In fine, every structure and function in the body shew clear and unequivocal marks of deterioration, gradually, but steadily increasing!

Nor do the intellectual faculties remain unaffected, though they do not always evince a strict correspondence with the failure of corporeal functions. Imagination, wit, and memory may flag; but judgment, understanding, and wisdom remain firm as a rock. Sixty years' experience indeed of human vicissitudes converts temerity into caution—sanguine hope into cool calculation—castles in the air into habitations a little (and but a little) more durable on earth—credulity into doubt—confidence into suspicion—prodigality into parsimony—and contempt of danger into timidity and love of life.

These and various other changes, moral and physical, are so gradual, that they cannot be measured by any standard of days, weeks or months—scarcely indeed of years. But, whether from original defect in the organization, accidental injuries sustained in the journey, or, what is more common, from overworking of the living machine, it not unfrequently happens that, about the ninth Septenniad (sometimes sooner sometimes later), a marked alteration takes place in the rate of progression, or rather retrogression. In the course of a single year, nay of a few months, the physiognomy will present a singular and inauspicious look of deterioration. The character of expression in the countenance is changed—the features are pinched—the eye is lack-lustre—the strength is greatly diminished—the flesh wasted or bloated—the voice feeble—the gait unfirm—the appetite in abeyance—the thirst often troublesome—the spirits unaccountably depressed; and all this, without any tangible or visible disease, to explain the sudden declension of the various physical powers!

This is the CLIMACTERIC itself; but not the Climacteric disease. The functions are greatly impaired; but no vital organ has, as yet, been affected in structure. The truth is, that the organs of daily supply are now inadequate to repair the daily waste—and the laws of vitality are no longer able to counteract the chemical laws of decomposition. The whole material fabric is therefore gradually crumbling down. But I believe that very few touch the final goal of existence in this way—at least I have seen no example of the kind. This general dilapidation—this universal decadence of functional power having obtained, for a longer or shorter period, some particular organ or class of organs, gives way in function or structure more than the others, and then we have the '*Climacteric disease*.' Thus the absorbents are frequently the first to fail in their office—the ancles swell—and effusions take place into the cavities of the brain-chest, or abdomen, with corresponding symptoms. If the effusion be in the head, we have drowsiness, loss of memory, thickness of speech, diminution of muscular power, partial paralysis—and finally, apoplexy of the watery kind.

If the effusion be in the chest, we have cough, embarrassed respiration, inability to lie low in bed, breathlessness in ascending stairs, &c. &c. If the effusion be in the abdomen, dropsy is the '*CLIMACTERIC DISEASE*.' If the organs of digestion and nutrition be the first to give way (which is very often the case), then we have atrophy or general wasting of the body—ending in dropsical effusions.

But it not infrequently happens that the HEART itself is the organ on which the '*CLIMACTERIC DISEASE*' falls. It becomes enlarged in size, softened in structure, thinned in its walls, and imperfect in its valves. The effects of this disease are far more conspicuous in the function of respiration than in that of the circulation. As at the time Sir Henry Hallford wrote, we had not the means of distinguishing diseases of the heart, by the stethoscope, which we now have, so the '*CLIMACTERIC DISEASE*' has probably been supposed to fall on the LUNGS

when the heart was the seat of disease.* In the course of a long experience I have met with few instances of this kind. In those cases where the lungs were *apparently* affected, the heart was the organ primarily and essentially diseased. Every experienced practitioner, indeed, is now well aware of this fact. At the period alluded to, asthma was generally considered an affection of the lungs alone: at present, it is known that, in nine cases out of ten, it is attributable to, or combined with, disease of the heart.

And here we have a most important subject to consider. In the *climacteric decline*, and before any one particular organ breaks up—when we have a great deterioration of several functions, without marked disease of any one structure, is there any chance of checking the progress of decay, or starving off, for a time at least, the *climacteric disease*? This question is not so easily solved, even by experience, as might be expected—and for this reason—that all the phenomena of the climacteric decline occasionally present themselves in people who are very far short of the ninth-Septenniad—and where recovery often takes place. There is no reason why the same might not occur in the climacteric period, and yet not be the climacteric decline. There is a curious imitation of the Grand Climacteric that manifests itself among young women, from the age of 20 to 30 years, and which I have often observed. They appear to be fine plump healthy girls till the above period, when they begin to lose flesh, droop in spirits, grow languid and pale, with defective appetite, torpid secretions, and, in short, a general break up of the health, without any evident cause—without any tangible disease of organ or function. It is seldom fatal, though I have known it go on till death closed the scene. More frequently it takes a turn for the better—sometimes without any apparent reason—more often from some love-fit—or marriage—or TIME, which cures love-melancholy, as well as this erotic decline. Though the cause of this pseudo, or premature climacteric is not always apparent, its real nature rarely escapes the notice of the experienced physician. It is little under the control of drugs!

In several instances that have come under my own observation, and where all the symptoms of the climacteric decline—and that after the age of 60—were unequivocal, the constitution has rallied, at least for some years, and the individuals have died at last of other diseases. This has happened where especial care was taken—

“To husband out life’s taper at its close,
And keep the flame from wasting by repose.”

It was not, by *repose*, however, in the ordinary acceptance of the term—by reclining on the sofa—and stimulating a jaded appetite by provocatives. The farago of tonics, cordials, and nutriments, in such cases, only tend to consume the pabulum of life more rapidly, and extinguish the flame more quickly. The repose is that of passive motion in a carriage—if possible in an open one—perpetually changing the air and scene.

The climacteric disease is not confined to a particular part, or a peculiar form. It is the breaking-up of function or structure, or both, in the weakest organ of the body. When a *function* totally or principally fails, there can be little doubt that the structure of the corresponding organ or part must be more or less changed in its molecular organization, though that change may not be visible to the eye or demonstrable by the scalpel.

* “Of the various immediate causes to which this malady may owe its comment, there is none more frequent than a common cold.”

“When it combines itself with a common cold, the symptoms of catarrh continue to manifest themselves, and to predominate throughout the greater part of the duration of the climacteric disease.”—Sir H. HALFORD.

Although the function of digestion would seem to be the first or amongst the first to fail, in the climacteric disease, yet it does not appear to be the one which leads directly to the final issue. Defect in assimilation (the conversion of the food into nutritious blood), is much more frequently the cause of the emaciation and debility, than the mere loss of digestive power. Dropsical effusions into the different cavities, especially those of the chest and head, are the most common forerunners of death, in the climacteric disease. The *former* occasion difficulty of breathing in ascending stairs, with some cough and wheezing;—the *latter* render the individual drowsy, stupid, forgetful, torpid, palsied—and ultimately apoplectic.

The heart, as I said before, is not unfrequently the organ on which the climacteric disease falls. It grows flabby in structure—dilated in its cavities—attenuated in its walls—and imperfect in its valves. This is the most common cause of the dropsical effusions, the difficulty of breathing, the cough—and those symptoms which at a former period, were set down as affections of the lungs.

It would be a tedious, and, perhaps, useless task, to detail the various ways in which the CLIMACTERIC DISEASE winds up the drama of human life. The function of the KIDNEYS often fails, with corresponding change in their structure and secretion. This is a form of the climacteric disease which has been much overlooked, but which is now attracting considerable attention. The same may be said of the LIVER. Defective function in this organ prostrates the strength, and reduces the flesh, in a most extraordinary manner. It arrests nutrition, and thus subverts the powers of life, without producing any very marked phenomena that might awaken suspicion as to the cause.

It is humiliating to confess that, in climacteric diseases, palliatives only can be offered by the most skilful physician—and it is little less painful to observe the amount of mischief which is every day inflicted on humanity by rashness, empiricism, and ignorance, in such cases. Modern researches in morbid anatomy, have not enabled us to cure diseases that were previously incurable; but they have shewn us what are and what are not susceptible of remedy. We are thus guarded against doing harm; whilst the unprincipled charlatan, having no such check on his presumption, administers powerful drugs (for they are not remedies) in complete ignorance of the nature of the malady, and thus precipitates his victim into the grave, or, what is worse, aggravates his sufferings, during the remainder of his life!

Death from the climacteric malady, is generally easy—and often sudden, at last. As will be shewn farther on, it is, as nearly as possible, the death of Nature, which is always easy—antedated, indeed, a few years, as to time, and considerably abridged as to duration. There is here no violent struggle between a sound constitution and an accidental illness. It is like the crumbling down stone after stone, of an ancient castle, compared with the demolition of the same edifice, at an earlier period, by catapultæ or cannon. As the mantling ivy procrastinates the fate of the tottering tower; so, change of air and scene, with the mildest restoratives, will sometimes prolong the existence of the drooping human fabric, and add a zest to the cup of enjoyment till the bowl of life is drained!"

- I. PHILOSOPHIE ANATOMIQUE. PAR M. LE CHEV. GEOFFROY SAINT HILAIRE.—2 vol. Paris, 1818-1822.
- II. HISTOIRE DES ANOMALIES DE L'ORGANIZATION, &c. PAR M. ISODORE GEOFFROY St. HILAIRE.—3 vol. Paris, 1832-6.
- III. SKETCH OF THE COMPARATIVE ANATOMY OF THE NERVOUS SYSTEM, WITH REMARKS ON ITS DEVELOPMENT IN THE HUMAN EMBRYO. By JOHN ANDERSON, M. E. S. London, 1837.

PHILOSOPHICAL Anatomy, or that science whose object is to explain the organization, development, and functions of animals, has hitherto met with very little attention in this country. We seem to have been too stedfastly engaged in pursuing those branches of the profession, which have immediate and direct application to the improvement of medical and surgical practice, to have spared much time for the investigation of the more abstruse and speculative truths of physiological research. It may be that our Continental brethren have carried the contrary spirit to an extravagant degree; and that, from allowing themselves to be over-occupied with the study of what has been called Transcendental Philosophy, they have neglected the more homely, yet certainly the far more useful, occupation of treating every-day disease. Be this as it may, it is certainly to be regretted that in Britain we have made so little progress in a field of enquiry, which, even if it had no practical advantages to recommend it, ought to engage the attention of every medical man, from the surpassing interest of its objects, and from the grand and impressive truths which it unfolds.

But we may be quite assured that whatever improves our knowledge of any branch of anatomy and physiology, will ultimately improve our knowledge of disease, and of the means best fitted to relieve it.

It is a great error to suppose, that *he* makes the best practitioner, who devotes his time and study exclusively to the mere minutiae of medical or surgical experience, and whose thoughts are constantly occupied with reports of cases, effects of remedies, and the innumerable opinions of different writers.

It was not by treading in such a narrow path, that Hunter achieved his glorious renown, or that Haller, Morgagni, or Monro have shed a lustre over the profession which they adorned; and, in short, all the great ornaments of medicine, in bye-gone as well as in the present time, have been and are those men, who have most deeply and most sedulously explored those very branches of knowledge, which we, perhaps unfortunately, denominate the accessory departments of professional education. The names of Scarpa, Bichat, Magendie, Charles Bell, Brodie, not to enumerate a host of others, will be admitted by every one, as affording the best proof which we could adduce of the truth of our position, that philosophical researches are not unfavourable to the acquisition of the greatest practical skill.

Of such studies there is none which will contribute more essentially to improve and exalt the character of the profession, than that of anatomy and of physiology, in their widest and most comprehensive range. The full extent and marvellous interest of these sciences have never been duly appreciated either in our schools, or by our writers. We have been too

much given to limit our attention to the mere pursuit of a knowledge of human anatomy and human physiology; as if these alone were sufficient to disclose the admirable truths of life and of organization. This has been a great and most prevalent error. To understand aright the philosophy of living structures and of the functions which they are destined to perform, it is absolutely necessary to study them, not in one animal only, but in all the classes and orders of the animal kingdom.

Hence the first-rate importance of comparative anatomy and of comparative physiology, to illustrate the anatomy and physiology of man. Within the last few years, it is most gratifying to have observed the growing fondness for the former sciences, which has been displaying itself in this country. Already there are several established lecturers on comparative anatomy in London. The London University has the merit of having set the example; and the Royal College of Surgeons, by their recent institution of an annual course at their Hall, has most properly recognized the importance of the study.

The bulk of our readers have only to call to mind the character and style of the lectures on physiology, which they were accustomed to hear delivered during their studies, to be satisfied how feebly and how imperfectly its most sublime truths were taught. Perhaps during the whole period of a six-months' course, not above half-a-dozen of passing allusions were ever made to the structure and development of the lower animals.

The professor was quite satisfied with tediously narrating the most obvious phenomena, which such and such organs in man exhibit during life. For example, he would occupy a whole or perhaps several lectures in telling his auditors that the liver secretes the bile, that the bile is a bitter acrid substance, that it assists in the assimilation of food, and promotes the peristaltic action of the bowels, and other such-like meagre details. All this information is very good, and very proper to be well understood by the student, to prepare him for the more practical details of nosology. But his instruction ought not to cease here; he should be taught to enquire what is the structure and development of the organ in the different tribes of animals, what changes it undergoes according to their habits and modes of life, what influence it appears to exert on other organs and other structures of the body, and in what manner its absence in certain classes seems to be compensated for.

The case, we have now put, would have been much more forcible, had we selected the stomach in place of the liver, as the subject of investigation; but this matters little, since both organs are intimately connected with each other, and are engaged in the performance of one function—the digestion of the food and its conversion into nutritive chyle. This primary and most essential of all the operations of living bodies, cannot, in the nature of things, be rightly understood, by studying its phenomena in one animal only, or in one tribe of animals. Here has been the great mistake in the teaching of physiology. The function of digestion has been described only in reference to man, with perhaps a few passing remarks on its peculiarities in some of the more common herbivorous and carnivorous animals. But no comprehensive view of this wonderful attribute of life in the different classes of animals, from the most complicated to the most simple, has ever been presented to the medical student. The lecturer on physiology might

have received a useful hint, had he only attended to the mode of investigation, which is followed in the pursuit of other sciences. The chemist is not satisfied with discovering or with describing one only of the properties of a substance. He tries it with all sorts of tests, submits it to a multitude of examinations, and compares its qualities with those of other substances of a similar character, before he expects to arrive at a correct knowledge of its qualities. The same general course of minute and comparative research must be introduced into the teaching of physiology, before we can hope to attain to any philosophical exactitude in our acquaintance with the mysteries of life. Every part, organ, and function of the body should be studied and explored in the different tribes of animals; their modifications, changes, and varieties should be brought together and compared with each other; and then, but not till then, shall we be prepared to deduce any rational conclusions as to their uses and their powers.

As it is ever a pleasing part of a Reviewer's duty to bestow praise, we gladly avail ourselves of the present opportunity to express our very high esteem for the great abilities and unwearied assiduity of Dr. Grant, the distinguished Professor of Comparative Anatomy in the University of London. His course of Lectures which adorned the pages of the *Lancet* two or three years ago, has contributed most essentially to the diffusion of high and philosophical principles in the study of physiology; and we trust that Mr. Wakley, with his accustomed zeal and enterprise, may be induced ere long to publish Dr. Grant's lectures on this delightful branch of medical study. There is certainly not a man in this country better fitted to do justice to the subject. His intimate acquaintance with human as well as with comparative anatomy, the variety and accuracy of his scientific attainments, the philosophical cast of his mind, and, withal, the impressive eloquence of his language admirably qualify him as a teacher of physiology.

We have been much disappointed in finding that his services have been so little called into requisition in the composition of one of the most meritorious works of the present day—we allude to the *Cyclopædia of Anatomy*. Dr. Todd will do well not only for the credit, but also for the permanent success of his book, to entrust many of the physiological articles to such a man as Dr. Grant. It was only the other day that, in making reference to one of the very first articles in the first number professing to give an account of a most important function of life, we had occasion to lament its great and lamentable imperfections. Page after page is occupied with details of literary history, commencing as usual with Hippocrates and Aristotle, and most wearisomely mentioning name after name down to the present time—a species of information more curious than useful; but, throughout the whole article, there is scarcely even a reference made to the state and development of the organs in any of the lower classes of animals; and yet without such knowledge, it is impossible to understand aright the functions which these organs are designed to perform.

We may be quite assured that it is only the comparative anatomist that can ever hope to be the scientific physiologist. The study of human anatomy and physiology alone may make the clever operator in surgery, and may even be deemed sufficient for the purposes of the practical physician in the ordinary routine of his avocations; but it can never suffice for him, who has any taste for the philosophy of his profession. As well might the geologist hope to be

satisfied with a mere knowledge of mineralogical details, and with having a partial acquaintance with a certain district of country. The great and wonderful truths of geology could never have been established without a comprehensive review of the structure of the earth in different regions, and a minute examination not only of the mere minerals which enter into its composition, but of a multitude of accessory objects and of accessory phenomena, which at one time were deemed quite alien to such enquiries.

Every one must have heard of the glorious results of Cuvier's application of comparative anatomy to illustrate and confirm the grand discoveries of this science; and he indeed would be deemed, in the present day, little short of a madman, who might presume to expatiate on any theory of the earth's formation, without having a strict regard to the obvious conclusions, which are presented to our minds by the study of fossil osteology. Equally vain will be the attempt of the anatomist to explore the paths of physiology, if he limits his researches to one particular object, or to one set of objects in the animated world. Comparison and analogy are two of the most powerful implements of the mind, in any effort to arrive at truth. In the study of natural history, it is alike delightful and instructive to call them to our aid; and, under their guidance to follow out, step by step, the grand chain of organic existence, tracing each part from its simplest form up to its most complex development; to observe the striking, yet unlooked for, resemblances between the same organs in different animals and in different classes of animals; to mark the all-admirable skill, with which Nature has adapted and accommodated each being to its necessities, wants and desires; and thus to derive fresh and fresh proofs of the unity of that design, which has formed and fashioned every part of creation. Such is the noble end, and such are some of the sublime results which the study of comparative anatomy and physiology will suggest to the generous mind.

There is another and kindred department of the science to which we have not yet alluded, but which is intimately connected with the object of the present enquiry, and merits an equal share of our attention—we allude to the study of Embryology, or that department, which professes to trace the successive steps in the development and evolution of an animal (more particularly of man), from the early stage of intra-uterine existence, until it arrives at its mature and perfect formation. This is a branch of physiology, almost quite unknown in this country, although during the last twenty years it has been investigated with great zeal and success on the Continent.

It is to the labours of the German and French anatomists, more especially to those of Meckel, and Tiedemann, of Geoffroy St. Hilaire and Serres, that we are indebted for almost all that we know on this interesting subject. Their researches have made known to us the wonderful truth, that the intra-uterine being passes through a series of successive changes or phases of existence, beginning with the most simple state and gradually advancing to the more complicated and perfect. They have shewn us, that the human embryo, at the earliest period of its evolution, is analogous to some of the simplest members of the zoophytic class; being nothing save a mere vesicle or globule, filled with a glairy fluid, and exhibiting no appearances of variety of parts; and that gradually organ after organ, and system after system are developed and more and more complexly formed; each successive change representing as it were, the structure and formation of an animal, higher

and higher in the scale of organization. We shall attempt in the sequel to point out and illustrate many proofs of this law. For example, when we come to treat of particulars, we shall endeavour to shew that the nervous system in the very young embryo is nearly analogous to that in the more simple of the invertebrata; that it next assumes an arrangement, such as we find in the insect and mollusk tribes; and that successively, as it becomes more and more complex, it may be aptly compared to its organization in fishes, reptiles, birds and lower mammals, until at length it arrives at its perfect development, such as exists only in the human species.

The progress, that has been already made in this most curious field of physiological enquiry, encourages us to hope that, ere long, some work may be published in the English language, presenting a comprehensive summary of all that is already known of embryological anatomy. We are not aware that even an attempt at such an undertaking has yet been made. The works of Mr. Anderson and of Mr. Solly on the Brain are creditable; but they embrace only a very limited portion of the subject. We should be glad to hear that such an anatomist as Dr. Grant, or Mr. Owen the professor of comparative anatomy to the London College of Surgeons, or Dr. Knox of Edinburgh had directed their attention to an enterprise, which is well worthy of their best exertions. And let it not be supposed that the study of such philosophical enquiries is attended with no direct benefit to medical science.

One of the most interesting proofs of their great importance is afforded us by the consideration, that since embryology has been studied with scientific precision, much light has been thrown on the hitherto mysterious subject of Monstrosities and congenital malformations. It has for example, been most clearly proved that a considerable proportion of these anomalies may be very easily and satisfactorily explained; and we may add that already a decided improvement has been introduced in the treatment of many of them. It would require a much wider field, and a far more protracted study than we can at present afford, to treat this subject in all its details.

The curious reader will find a large mass of most useful information in the three volumes of the younger St. Hilaire. This work is certainly a very meritorious production, and reflects great credit on the zeal, industry and talents of the author. We have perused it very carefully, and have endeavoured to compress as much of its interesting matter in the following pages, as the scope of the task, which we have assigned to ourselves, would permit.

The object of this task we may briefly state to be, an endeavour to point out and to illustrate a few of the most interesting discoveries which have flown from the study of Embryology, and to shew the application, which has been made of these, to explain the occurrence of many of the structural anomalies or malformations, known under the name of Monstrosities.

In the course of the inquiry, we shall have frequent occasion to refer to the facts of comparative anatomy, and to remark the intimate analogy which may be traced between the organization of the fetus, at different periods of its existence, and that of the different classes of animals.

Two theories have been proposed to explain the mode of development of the embryotic animal. According to the one—that so eloquently enforced by Haller, and which has, until of late years, been very generally adopted by anatomists—the great systems or divisions of the body, such as the vascular

the nervous, &c. are supposed to be formed from the centre towards the circumference; the heart, brain and spinal cord being, it is imagined, first generated, and the blood-vessels and nerves radiating from them, as from a middle point, to all parts of the surface. It was long, indeed, a question of dispute in the schools, whether the heart, or the cerebro-spinal axis, was the part first formed; but, whichever of these opinions was adopted, all physiologists, without exception, seemed to believe that these two parts made their appearance before either the blood-vessels or nerves. Every reader must have heard of the 'punctum saliens,' the embryotic heart, being usually described as the earliest sign of a circulatory apparatus: and, even in the present day, perhaps the majority of medical men are not aware that the truth of this opinion has been ever called in question.

The rival doctrine maintains the very opposite conclusions. According to its precepts, the development of the animal body is from the surface of its two lateral halves towards the mesial line or centre. To recur to the case of the vascular and nervous systems, M. Serres (one of the most accomplished anatomists of the present day, and long distinguished among the French anatomists by the boldness and ingenuity of his speculations) asserts and his assertion has been confirmed by the researches of many other enquirers, that the blood-vessels and nerves are developed primarily in each lateral half of the young embryo, and that they gradually converge towards the mesial line of the body, until they at length finally coalesce, and thus give origin, as it were, to the heart and its large trunks on the one hand, and to the brain and spinal marrow on the other.* Such is the doctrine which has been denominated the 'Centripetal or Eccentric Theory of Development,'† in opposition to the more ancient one, to which the appellation of the 'Centrifugal Theory' has been given. These terms are sufficiently expressive; and we shall therefore, for brevity's sake, make use of them in the following pages.

Our author—and he must be considered as no mean authority on all questions connected with embryogeny—is a most zealous supporter of M. Serres' views. His work indeed is based throughout on the centripetal theory; and affords, it must be admitted, a host of very strong proofs in favour of its correctness. It is to be regretted that M. St. Hilaire has not given a condensed and succinct view of these proofs by themselves. They are scattered over almost every chapter of the book, and it has given us no small trouble to pick them out and bring them together within a short space. We shall first allude to the arguments which may be derived from the development of some parts of the osseous system in favour of the centripetal theory, and we shall select for our purpose those parts of this system, which are situated in the line of the mesial plane.

* What adds great probability to this doctrine is the fact, that the heart has been found wanting in some monsters, while the blood-vessels were present; but the reverse of this condition has never been detected. The same remark may be made of the cerebro-spinal axis and of the nerves—the former may be absent, but the latter are always present.

† Some German anatomists have, in compliment to its distinguished proposer, called it the *Lex Serriana*.

The cranium is believed to afford most convincing illustrations of the centripetal law of formation. The eight bones of the cranium may be conveniently arranged into those which are situated in the mesial line and are single in the adult body, such as the *os frontis*, *os occipitis*, *os ethmoides* and *os sphenoides*; and into those which are situated on each side of this line, and which are, it is well-known, double—viz. the parietal and temporal bones. In the young fetus, the single bones are, each of them, composed of two lateral halves, which may be said to correspond to the two parietal and two temporal bones. Every young anatomist is aware that the *os frontis* not unfrequently exhibits a mesial suture—a proof of the bone having at first consisted of two lateral parts, which in most crania coalesce so intimately at an early period of life, that the line of fissure is effaced. It is also a well-known fact, that the fetal *os occipitis* consists of four segments; one superior and posterior, another inferior or basilar, and the other two lateral, being situated on each side of the foramen magnum. In the very young embryo however the number of these pieces is greater; for the posterior and the basilar portions are then found each to consist of two lateral symmetrical halves not yet united. They subsequently coalesce along the mesial line, and all traces of their former separation are effaced. The line of the mesial coalescence of the posterior segment is where the *falx cerebri* and *cerebelli* is attached. The ethmoid and sphenoid bones also are composed primarily of two lateral parts, separated from each other along the mesial line.*

It thus appears that the line of the sagittal suture extended forwards and backwards around the whole cranium in a vertical direction, separating one lateral half of the skull-cap from the other. As fetal life advances, these two lateral halves have a tendency to meet together and to coalesce; and this process takes place in every point except between the two parietal bones, which, for wise purposes, are kept apart from each other, until after the birth of the child.

It will be observed that, we are not speaking at present of the process of ossification in the separate bones. This is quite another subject of enquiry. All that we wish to prove is, that there are two analogous formations in each lateral half of the cranium; that there are two frontal, two occipital, two ethmoid, and two sphenoid, as well as two parietal and two temporal bones; and that all these laterally situated bones are developed more or less apart from each other at first, and have in the progress of their development a tendency to meet together and to coalesce. If our limits permitted, we might allude to the development of many of the facial bones to illustrate

* The exact accuracy of these statements has been ascertained by the researches of Meckel, the elder St. Hilaire, Serres, &c. on the anatomy of the young fetus; and it has been most beautifully confirmed by the discoveries of comparative anatomy and by some interesting phenomena of teratology. For example, in certain cases of cephalic monstrosity, the brain or some portion of it has been found protruding, not only at the *bregmata* and between the two parietal bones, but also between the lateral portions of the frontal and occipital bones, and even right through the centre of the ethmoid and sphenoid bones, in the situation of the nasal lamella of the former and of the *sella turcica* of the latter.

the same general law of lateral duality, and of mesial union. The ossa nasi and the superior maxillæ might be aptly quoted for this purpose; but perhaps the inferior maxillæ affords a still more interesting illustration. This bone consists at first most truly and essentially of two lateral halves, altogether analogous, or rather similar to each other; these two halves afterwards meeting together at the symphysis menti in the mesial line, and there coalescing by a most intimate union. There cannot be a more conclusive illustration of the "*Lex Serriana*," or doctrine of centripetal formation, than is afforded by the progressive development of this bone.

Let us now direct our attention to some of the bones of the trunk. The vertebral column consists, it is well known, of a multitude of bones, all bearing a general analogy and resemblance to each other, and all truly symmetrical—their two lateral halves being strictly alike. Now in the very young embryo, these two halves of the vertebræ are found to be formed apart from each other; each half having its rudimentary body and lateral processes. The spinous processes of the vertebræ are the parts latest developed; and hence, for a considerable period of intra-uterine life before they are formed, the spinal canal is open posteriorly, along its whole extent from the cranium to the extremity of the sacrum. It sometimes happens that, at particular parts, this open state of the spine continues at the period of birth; and then we have presented the malformation, which has been called "*spina bifida*." The etiology therefore of this affection is merely a retardation to, or arrest of, the normal process of development—the vertebræ remaining, in some respects, in their embryotic state, instead of meeting together and coalescing behind as they usually do. As every student of medicine is acquainted with the history of *spina bifida*," we need not at present say more on this subject. But there are probably few of our readers who are aware that the bodies of the vertebræ, as well as their spinous processes, sometimes exhibit this malformation. In certain monsters, the two lateral halves of some vertebræ, more especially of the dorsal, are actually disunited along their mesial line; and then either the spinal cord may protrude between the fissured bones into the posterior mediastinum, or a portion of the lungs into the vertebral canal. It was, by the study of such structural deviations as these, that M. Serres was first led to deduce his glorious discovery—the law of centripetal formation.

The sternum, a single bone situated in the mesial plane, and not exhibiting any traces of "lateral duality," was for some time supposed to argue against the universality of the "*Lex Serriana*."

But subsequent researches have shewn the incorrectness of this supposition. The sternum (or rather the several bones which compose it), is actually found in the very young embryo to be divided, by a longitudinal or vertical line of separation, into symmetrical portions. This cleft state of the bone continues to exist in some rare monstrosities; and the fissure is sometimes so wide, as even to permit the heart to be protruded outwardly through it.

It is thus that the study of Teratology, or the science of monstrosities, so beautifully illustrates the most important doctrines of Embryogeny.

From the sternum we might pass on to the consideration of the pelvis, and adduce, from the history of its development, fresh proofs in support of the

centripetal theory. But these must in truth be too obvious to every reader, to require any elucidation on our part.*

Leaving therefore, the osseous system, we shall now briefly direct our reader's attention to the development of some of the soft parts of the body, as illustrative of the centripetal law. Let us take, for our first example, the anatomy of the abdominal parietes.

The linea alba is, all know, situated in the mesial line anteriorly, as the vertebral column is situated posteriorly. We have already shewn that this column is, in its primitive condition, cleft along its longitudinal axis. Equally so is the linea alba.

The abdominal muscles of each side are, in the young fœtus, separated by a fissure from the sternum to the pubis. As yet there is no linea alba: for, in truth, this line is subsequently formed by the meeting of the tendinous expansions of the muscles from each side. Often, indeed, this junction remains imperfect at the period of birth: and then some portion of the abdominal viscera is protruded, giving rise to a congenital ventral hernia.

The external organs of generation afford equally striking proofs of a primitive lateral duality, and of a subsequent "mesial coalescence." In a succeeding part of this article, when we come to treat of the curious subject of Hermaphroditism, we shall describe more minutely some of the more interesting facts, connected with the development of the generative apparatus. At present, therefore, we shall merely allude to those, which more directly bear upon the point under consideration.

The corpora cavernosa of the penis and those of the clitoris are, when first developed, separated from each other in the mesial line of their septa; and, at this period of embryotic life, the urethra also is found to consist of two lateral unclosed halves. The corpora cavernosa, as well as these halves of the urethra, gradually approximate to each other; and ultimately they coalesce firmly together, leaving no vestiges of their primitive disjunction. But if from any cause, the process of normal development be interrupted, the parts may retain, at birth, the condition of their early formation. In some rare cases, it is well known that the child is born with the penis cleft along a part or the whole of its length; and in others (an anomaly which is much more frequent than the preceding), the corpora cavernosa have united, but the canal of the urethra remains open, as if it had been slit along its inferior surface. To this latter malformation, the name of "Hypospadias," has been given. The proper explanation of this affection will be

* As strictly appertaining to the subject under review, we are induced to extract the following passage from a very able descriptive memoir on the amphibia by Mr. Bell, published in the Cyclopædia of anatomy.

"On examining the general texture of the bones in the amphibia, there is an obvious advance towards the firm calcareous substance of those of the higher vertebrated animals, when compared with the bones of fishes. The cranial bones, though they retain to a certain extent the character of those of fishes in the permanent disunion of the different centres of ossification, yet do not overlap each other as in that class; but, on the contrary, remain with their margins at least in contact, and in many cases actually united, though not by true sutures. The elements of which the cranium is essentially composed, and which in a higher grade of organization are consolidated, are here still exhibited as distinct pieces—a state of things which is strikingly imitated in the progress of the development of these parts in the highest classes during their growth.

understood from what we have now stated. It is not, as some authors have most incorrectly asserted, the result of disease, but merely and altogether of the arrested or impeded development of the organ.

The scrotum is another part, which is double in the very young embryo. The two bursæ are formed separately, and afterwards coalesce along the line of the raphé. Even the urinary bladder itself seems to be formed in the same manner; but as this point has not been so accurately ascertained, we shall pass on to the consideration of the development of the uterus. It deserves however to be remarked, that in those cases of extreme malformation, in which the urinary bladder is protruded through the unclosed symphysis pubis (its anterior being often wanting at the same time), the fundus of the viscus usually exhibits a bilobed appearance, and the other parts of the genito-urinary apparatus are almost always more or less defective simultaneously. Thus the anomalies of Hypospadias and of fissured scrotum and perineum are very common complications of the "Exstrophia" of the urinary bladder.

The truth of this remark, is indeed, of very general application. It is rare to meet with any great structural deviation of one part in a new-born child, unassociated with other anomalies or deviations; and no doubt for this very satisfactory reason, that the cause—be that what it may—which has induced an abnormal development of one part, must necessarily act upon other parts of the body at the same time. It is in this manner that we are to account for the very frequent co-existence of cleft lip, of fissure of the palate, of umbilical hernia, and so forth, in infants affected with spina bifida. All these malformations are, it will be observed, attributable to the same general cause—namely, the imperfect mesial junction of the two originally separated lateral halves of the body.

Every anatomist is aware that there are numerous examples on record of what has been called "double uterus."

This anomaly consists in the viscus being more or less completely cleft, in a vertical direction, along its mesial plane. In some cases, this fissure is very complete, extending from the fundus to the cervix; but more frequently the fissure is limited, and the uterus then presents the appearance of having a double fundus. [We have recorded a good many examples of double uterus in an article, which our readers will find in the Foreign Periscope of the number for January.] In other cases, the uterus does not exhibit any unusual appearance outwardly; but on being cut open, it is found divided into two compartments, a right and a left one, by an intervening septum; just in the same manner as the heart is divided into right and left cavities by its septum. When such a septum exists, we believe that it is always situated in the mesial line, extending from the anterior to the posterior surface, and never in a transverse direction from side to side. The bilocular uterus may therefore be considered as an inferior or less complete degree of the bilobed uterus; and the explanation of both anomalies is the same. In the young foetus the uterus is found to consist of two lateral parts, not yet agglutinated to each other. As the coalescence and fusion of these two parts take place, the septum is gradually absorbed, in the same manner and probably according to the same law, which determines the absorption of the membrana pupillaris of the iris.

If necessary, we might allude to the embryotic development of other

viscera, situated in the mesial line of the body, to find fresh proofs of the operation of the centripetal law.* But we prefer to appeal to other parts and other structures, whose anomalies are better known, and have been more attentively investigated. None are better suited to our purpose than those of the lips, especially of the upper one, and of the palate. Median fissure of the upper lip (one of the varieties of harelip), of the soft and hard palates, and of the velum pendulum and uvula, is a malformation of not unfrequent occurrence.

Before the time of M. Serres, no satisfactory explanation could be assigned of the origin of these structural deviations. Some anatomists thought that they were the result of some disease or another affecting the *fœtus*; while others very wisely conjectured that the tongue must, somehow or other, have forced a passage through the palate, while it was forming! This may be taken as a specimen of the idle and very foolish ideas, which prevailed on the subject of monstrosities within even the last half century. The discovery of the great law of centripetal development has not only dissipated all these absurdities, but has enabled us to explain satisfactorily, and in a manner worthy of such a science as that of embryology, this and most other congenital deviations of structure. The fissure of the upper lip and of the palate is now most indisputably known to be the result not of any disease or injury, but simply of an arrest or stoppage of the development of the part, in its progress to mature formation.

In every young *fœtus* without exception these parts are fissured, just as we find them to be in cases of harelip and of cleft palate. It is the natural state of the parts, while they are *forming*; and it is only at an ulterior period of intra-uterine existence that the lateral halves of the lip and of the palate, are united, and, as it were, fused or melted into each other. Now if, from any cause, nature is stopped or impeded in its operation of developing a part, it will necessarily follow, that, at the period of birth, that part will continue to exhibit the appearance which it had when the stoppage or impediment of the process took place; while the other parts of the body, which had encountered no such arrest, will have advanced to the normal completion of their development. This is the key of solution to many of the problems of Teratology; the Ariadne-thread, which will guide the anatomical philosopher through its apparently most intricate and mysterious mazes.

It is, therefore, of primary importance that the student should ever bear in mind the memorable fact that, in every class of animals, all the parts and organs, situated in the mesial line of the body, consisted primarily of two symmetrical analogous lateral halves; that these halves are developed separately from each other; that they have a gradually increasing tendency

* The heart, not being situated in the mesial line, might at first be supposed not to be subject to the operation of the centripetal development.

But the investigations of Serres and others have most distinctly proved that this most important organ is situated in the young embryo in the mesial line, and that its lateral halves are developed apart from each other, and afterwards coalesce together.

The fissure of the apex of the heart—an occasional anomaly, and which is the normal state at a certain period of *fœtal* life—is a vestige of this coalescence having been interrupted.

to meet and coalesce in the mesial line; and that most of the congenital malformations of these parts are attributable to an interruption of this mesial union and coalescence. Such is the sum and substance of M. Serres' great discovery—the law of Centripetal or Excentric development.

We have already said that the heart, during the successive periods of its formation, appears to obey this general law. As the development of this organ is of the highest interest, we shall describe at some length the most important facts, which have been ascertained respecting it in the chick, as well as in the fœtus of man and of other mammiferous animals.

We shall be led at the same time to compare the successive phases or stages of development of this organ in the higher animals, with its permanent forms or conditions in those lower in the scale of organization; and thus to perceive the truth of that marvellous harmony and unity of design, which pervades the whole scale of animated nature.

In the chick, 30 or 40 hours after the commencement of incubation, the heart appears as an open sac. This sac gradually closes; soon afterwards it begins to exhibit a bulging out or projection at three different points of its surface. These three protuberances are separated, imperfectly indeed, from each other by intermediate contractions or puckerings. They correspond to, and are in truth the rudimentary formations of, the future left ventricle, the left auricle, and the bulb of the aorta. The heart is, therefore, at this period of embryotic existence, of a very simple conformation; consisting of but one cavity, and thereby resembling the heart in some of the lower tribes of animals. As yet there is no distinct septum, or any appearance of a valve between the auricle and ventricle. While this septum is forming, the right ventricle begins to appear as another protuberance or bulging out at the side of the left ventricle; and soon afterwards the development of the right auricle follows. The two auricles at first form but one cavity. The partition between them is developed subsequently, and seems to be generated by the gradual approximation of a fold of the walls of the auricle descending from above and by another ascending from below, until these coalesce, except at one point where the foramen ovale is situated.

It has not yet been distinctly ascertained whether the two ventricles, like the two auricles, form at first but one common cavity. This however at least is certain, that towards the end of the second month of intra-uterine life there is, in the human fœtus, an aperture through the base of the septum ventriculorum, permitting a free communication between the two sides; and moreover that the aorta, at this period, springs directly from over this point. The pulmonary artery as yet appears to be scarcely developed.*

* The following brief description of the development of the heart is taken from Mr. Solly's Work on the Brain.

"The first appearance of the heart in the human embryo is that of a mere pulsating vessel without any division into cavities or thickening of its walls; an arrangement which in all its simplicity is met with as the sufficient instrument for effecting the circulation in the perfect insect.

The next step consists in the gradual dilatation of this tube into a sac, previously to its division into four cavities; and this corresponds with the single heart of the fish, consisting merely of an auricle for the reception of the blood, and a ventricle for its propulsion.

The study of the various phases in the formation of the heart, now alluded to, is especially interesting, when we contrast them with the conditions of the central circulatory apparatus in the different classes of animals, and when to these we connect some of the phenomena exhibited to our view in various monsters. We find that there is an intimate analogy between these successive phases on the one hand, and the normal state of the heart in the lower tribes of animals and also the anomalies which are found in monsters on the other hand.

To illustrate this very curious subject, we shall first briefly allude to the comparative anatomy of the heart, and endeavour to point out the resemblance between the structure of the organ in some of the classes of animals, and the successive conditions of it in the human *fœtus*.

As a general remark, it may be stated that the organization of this viscus is found to exhibit a gradually increasing complexity of structure, from the simple animals in which we perceive only its rudimentary condition, up to the mammalia and to man, in whom it reaches its maturity of development.

In the zoophytes and cœntozoa, there are no traces of any heart. In insects, the dorsal canal, which is closed at each extremity, may perhaps be regarded as the earliest rudiment of a heart. In the tribe of the arachnidæ, comprehending the spiders, scorpions and such like animals, this dorsal canal appears to have acquired the distinctive characters of a heart; as it may not only be seen to pulsate through their bodies, but also because we find vessels proceeding from it and going to different parts of the body.

The dorsal vessels, in some of the vermes, exhibits several bulgings or swellings, which have been considered as analogous to so many hearts: but this supposition is of doubtful accuracy. Among the crustacea, the central circulating organ of the brachiopoda is somewhat similar to that of insects, being of an elongated form, and more like a large artery than a distinct heart; but in the decapoda (the section including the crabs, lobsters, &c.), it is rounded and has a more decidedly heart-like character. In both of these groupes, the organ has but one simple cavity, which receives the veins of the body, and from which issue the arteries of the branchiæ. The vascular apparatus therefore, in these animals corresponds to the right or pulmonic heart of the mammalia.

In the mollusca, the heart is found to exhibit a more complex structure. In the gasteropodous and pteropodous sections, it consists of an aortic ventricle and of a pulmonary or rather a branchial auricle—in the acephala, of an aortic ventricle, and of two pulmonary auricles—in the brachiopoda, of two aortic ventricles which are separate from each other, and act the part of auricles at the same time—and in the cephalopoda, of three ventricles, two pulmonary and one aortic, all detached from each other and provided with auricles.

As the development advances, a second ventricle is added to the first on the right side of it, separated from the left by a septum, which is so imperfect that the aorta communicates with both cavities; and the very same arrangement is found to exist in the adult crocodile.

While the septum is being formed in the interior, a notch appears on the exterior, which, extending from the apex to the base, divides the heart in exactly the same manner as it is met with in the dugong."

When from the mollusca we ascend in the scale to the class of fishes, and examine their central circulatory apparatus, we discover that there is a considerable resemblance between it, and that of the Gasteropoda already described. The heart consists of but one auricle and of one ventricle; the former receiving the veins of the body, the latter sending out the branchial artery.

In reptiles, there is one ventricle, and either one or two auricles; but the circulatory apparatus in these animals differs very essentially from that in fishes and in the mollusca, inasmuch as not only the veins of the body, but those also of the lungs terminate together in the auricle, and as the ventricle gives out two sets of arteries, of which one is destined for the general, and the other for the pulmonary circulation.

The heart in birds and in mammiferous animals possesses all the characters and general arrangements of the human heart.

This brief sketch of the comparative anatomy of the heart may probably suffice to indicate to our readers the very striking resemblances which may be traced between the progressive developments of the viscus, during its evolution in the embryo, and some of its congenital malformations on the one hand, and the normal condition of its structure in the inferior tribes of animals on the other hand. We have already seen that the heart, when first discoverable in the fœtus, appears to consist of but one or two, imperfectly separated, cavities; and in some cases of extreme monstrosity the heart has been found at this *Zero* of its development. Now it will be remarked that this state is strictly analogous and corresponding to the normal condition of the organ in some of the lower animals, as in the insecta and certain crustacea.

The same train of comparative investigation may be applied to the progressive changes which the heart undergoes during its embryotic evolution, from its earliest appearance to its mature and perfect formation.

The younger the fœtus, the more simple is its structure; and it progressively becomes more and more complicated in its organization, just in the same manner that it is known to acquire a gradually increasing complexity, as we ascend from the lower to the higher classes of animals. It is by pursuing this most curious subject of investigation, that we are enabled to give a rational interpretation of such congenital malformations, as the existence of only one auricle and one ventricle, or of a free communication between the right and left sides of the heart, or of the aorta arising from both ventricles, and such like irregularities of structure.

We cannot dismiss the subject of the changes in the central circulatory apparatus, (not only in the different classes of animals, but also in the same animal during the progressive periods of its evolution until it reaches its mature development,) without directing our reader's attention to the very wonderful metamorphosis which this apparatus, as well as other parts of the body, undergoes in the young frog, when passing from the state of tadpole to that of a perfect animal. The tadpole or young frog, is in most respects strictly and essentially a fish. It has no developed anterior or posterior extremities; the coccygeal vertebræ are numerous and lengthened out so as to form a tail by means of which the animal propels itself, in genuine piscine manner, through the water; the blood is purified by means of gills exposed to the water, and not of lungs which admit air; and many parts of

the osseous system, especially the bones of the cranium, exhibits most of the characters of those of fishes. While the marvellous change from a branchial or aquatic to a pulmonic or air-respiring animal is going on, the limbs become gradually developed, passing through a rudimentary form beneath the integuments, from which they do not emerge until they have acquired considerable size and a very defined figure. When these members are fairly formed, the tail is slowly removed by *interstitial absorption*,* and does not suddenly fall off, as some writers have most erroneously maintained, and the animal is thus gradually fitted for its new mode of life.

The changes in the circulatory and respiratory organs deserve to be explained at somewhat greater length. We shall avail ourselves of the description which Mr. Bell has given of it, in the *Cyclopædia of Anatomy*.

"Beginning," says Mr. Bell, in the article already quoted, "life with all the essential characters of fishes, even in the functions of circulation and respiration, possessing the single branchial heart of that class, how wonderful and beautiful are the changes which these organs undergo, as the branchiæ become obliterated to give place to pulmonic cavities, and the heart at the same time assumes the compound character and form of a systemic and pulmonic heart, in accordance with the change in the respiratory organs. The heart consists at first of a systemic auricle, which receives the whole of the blood from the system, and of a ventricle which propels it into the branchial arteries. It returns by the branchial veins, which, as in fishes, concur to form an aorta without an intervening ventricle. From the last branchial artery on each side is given off a branch which goes to the rudimentary pulmonic sac, and which ultimately forms the trunk of the pulmonary artery. The most interesting change is that, by which the continuous branches of what were originally the branchial arteries combine to form the two trunks of the aorta.† The two veins, which return the blood from the rudimentary air sacs gradually enlarge, as these cavities become more important, and assume the character of lungs. These by degrees become, as it were, distended at their point of union with the heart, and ultimately form the second auricle. The branchial arteries become gradually more and more contracted, until at length they are quite obliterated. In the adult condition of the animal, when it has now become an air-respiring creature, the heart consists of a single ventricle and of two auricles. The little

* It is of great importance for the student of embryological anatomy to consider most attentively this topic of the gradual absorption of a part, while an animal is passing from a less to a more perfect form of existence; as it constitutes an essential element in the doctrine of excentric or centripetal development. That certain parts, present at one period of foetal existence, are subsequently absorbed, is most indisputably proved by the disappearance of the *membrana pupillaris* of the eye.

The removal of the tail in the young frog may be adduced as an operation altogether analogous. It is by an extension of this same principle, that M. Serres explains one of the steps in the development of certain mesial hollow organs, such as the womb, &c.—which he supposes to consist at first of two separate cavities, gradually coalescing, until they constitute but a single unilobular organ, the central septum having been removed by *interstitial absorption*.

* Those who wish to make themselves better acquainted with the details of this most interesting subject will find much valuable assistance in the "*Tabular View of the Circulation in vertebrated Animals*," by M. St. Ange. An English translation of this work has been published by Mr. Jones.

pulmonic auricle receives the aerated blood from the lungs by means of the pulmonary veins. The systemic auricle at the same time receives the impure blood from the system by the *venæ cavæ*. The blood from the two auricles is sent together into the single ventricle, where it becomes mixed, and this mingled arterial and venous blood is propelled by the same impulse, partly into the pulmonary arteries to be more perfectly purified, and the remainder through the aorta to the different organs of the body."

We trust that our readers will be pleased with the lengthened details which we have given respecting the development of the heart. The subject is one of great interest, and cannot fail to engage the attention of every medical man, whose thoughts can go beyond the pleasure of pocketing a fee, or the bore of writing a prescription.

We have selected the heart as our primary illustration of that most important discovery in embryological science—that the bodies of the more perfect animals undergo, during their development, a series of progressive changes from a more simple to a gradually increasing more complex formation, and that these consecutive changes of structure are strictly analogous to the normal condition of the organs in the lower tribes of animals, because the comparative anatomy and physiology of the circulatory apparatus, is probably very generally known to the mass of our readers. Other organs however furnish perhaps even more conclusive proofs of this great law. The testicles may be aptly quoted for our purpose. It is well known that in a number of animals the testicles never descend through the abdominal rings, but remain during life in the loins. It is also known that during the first seven or eight months of intra-uterine life of the human fœtus, the testicles are situated immediately beneath the kidneys, and that then they gradually descend to the groins and subsequently into the scrotum. This is the natural condition in man; but occasionally it happens that in time the process is, from some cause or another, impeded; and that the testicles either never leave the loins at all, or are stopped at the abdominal rings. Such an impediment is an instance of "arrested development," to use the scientific expression. The full and complete development of the organ, in as far at least as regards its normal situation, has not taken place at the usual time; and the child therefore at and after birth retains its fœtal peculiarity. But this very peculiarity in man is the normal condition in most of the lower animals; and hence we are fairly entitled to adduce the non-descent of the testicles in the human subject as an example of the position which we have laid down—that many congenital malformations in the child are, as it were, types of the natural condition of the affected parts in some of the lower animals.

In a former part of this article, we have alluded to the "*centripetal*" mode of formation of the uterus, and we then endeavoured to account for the occurrence of the anomaly of a double uterus, by attributing it to an arrested development of the organ, anterior to the coalescence and fusion of its two lateral halves. Whether this interpretation be correct or not, it is especially worthy of notice that this very anomaly affords another very striking example of the analogy which may be traced between the congenital malformations of the human subject, and the normal development of other animals lower in the scale of creation. In numerous tribes of animals the uterus is always bilobed, or bicorned.

The progressive phases in the development, as well as many of the congenital malformations, of the urinary bladder, will also be found to have their types of resemblance in the normal state of the organ in the lower animals. The bladder is in some cases entirely wanting in the human subject, and the ureters have been found to terminate either in the urethra, or rectum, or vagina. Now the comparative anatomist knows that this viscus is absent, not only in all invertebrated animals, but also in most fishes, in many of the amphibia, and in all birds; and if we consult the embryological student, he will tell us that the younger the human fetus is, the more does its bladder resemble, in shape and situation, the state of the organ in the lower quadrupeds. During the earlier months of intra-uterine life, the bladder has an elongated shape its fundus being pointed and approaching the umbilicus in the direction of the urachus—which it is well known, is pervious at this period, and which sometimes continues patent even after birth. Now this description is most correctly applicable to the normal state of the bladder in many of the lower animals.

From the bladder we may pass on to the kidneys; and it will be found that the embryological and comparative anatomy of these viscera also afford a beautiful illustration of the theory, which we are attempting to enforce. In the early fetus, and in numerous examples of monstrous infants, the kidneys exhibit a multi-lobular appearance—a condition in every respect similar to the normal condition of the organ in the cetacea, &c.

Several of the congenital malformations of the face and mouth are, as already explained, altogether owing to the persistence of an embryotic state of the parts. Now if these malformations be compared with the results of comparative anatomy, it will be found that they are most accurately represented by the structure of the same organs in certain orders of lower animals. The median fissure of the upper lip—one of the most frequent of all congenital defects—is the natural condition of the part, not only in the very young fetus, but also in all fishes, and in numerous tribes of mammals besides the family of the hares—which have given a name to the malformation. The fissure of the palate also is present in very many of the lower animals.

The instances now alluded to are so very striking, and withal so generally known, that it is unnecessary to do more than merely to mention them. There is however an occasional malformation of the bones of the upper jaw, which deserves a more special notice, as its real nature has not been well explained in almost any British work, and as it furnishes another beautiful example of the strict analogy of such defects with the normal state of structure in the lower animals.

We need not remind the student of comparative anatomy, that the most striking difference between the bones of the face in man and those in the lower animals consists in the latter having two bones situated between the anterior parts of the superior maxillæ. These are denominated the ossa intermaxillaria. No such bones are discoverable in the healthy human subject; but in certain cases of double hare-lip a formation, very analogous or rather altogether similar to that of intermaxillary bones, has been found. By a deep fissure through the bone on each side, corresponding in situation to the two lateral clefts of the upper lip, a central or mesial portion is detached from the two lateral portions of the maxillæ; and this central portion is generally found to contain the sockets for the incisive

teeth—just in the same manner as these teeth in animals are known to be developed in the genuine intermaxillary bones.

The occurrence of this malformation in the human fœtus is at once satisfactorily explained, if we appeal to the discoveries of embryology. It is to Goethe, the celebrated poet of Germany, that we owe our knowledge of the interesting fact, that in the very young fœtus there are distinct rudiments of intermaxillary bones. The discovery was announced in a memoir, published so far back as the year 1736, and entitled “Dem Menschen wie den Thieren ist ein Zwischenknochen der obern Kinnlade zuzuschreiben.” It at once explains the occurrence of the malformation which we have described above, and it furnishes at the same time a most striking example of the analogy, in point of conformation, of the human foetus with the other members of the mammiferous class in their perfect state.

If our time and space permitted, we might describe several other occasional malformations of the fœtus, which are strictly analogous to the natural state of the parts in some of the lower animals. For example the tongue is cleft along more or less of its extent in certain cases of monstrosity; in the Phocæ, in serpents, &c. the tongue is always cleft. The penis also is occasionally bifid; this is the normal state of the organ in the Didelpha, Monotremata, and also in the Ophidia. In many of the marsupial tribe of animals, the vagina, as well as the uterus, is divided by a longitudinal septum—a conformation which has been found, in a few instances, in the human subject.

We have not yet spoken of the Nervous system, having purposely reserved the consideration of its development and peculiarities to this part of our enquiry: as we wished to treat of it by itself, in consequence not only of the great importance of the subject, but also of the extreme accuracy with which the brain and spinal marrow have been investigated in the fœtus, as well as in the different classes of animals, by some of the most distinguished anatomists of the present day. We shall now endeavour to give a short abstract of their researches.

No subject of philosophical anatomy is more interesting and instructive than the study of the nervous system in the different classes of animals, and in the embryos of the higher animals during the different periods of their uterine existence. This system, like all others of the body, attains its highest degree of development in the mammals; and among these, more especially in some of the cetacea, in the ape tribes, and in man.

It is however only after passing through a multitude of progressive changes—the types of which are to be found in some of the lower animals—regularly consecutive upon each other, and becoming gradually more and more complicated, that this *maximum* of development is attained.

“The embryo,” says M. Serres, “reproduces in miniature, what we find on a magnified scale in some of the inferior animals. The primitive forms of the spinal marrow and of the encephalon are identically the same in all the classes, however much the individuals may vary in point of shape or outward appearance. Thus the embryo of the reptile exhibits at a certain period of its evolution a strictly ichthyomorphous nervous system: the embryo of the bird reproduces the type of the reptile’s brain, and the embryo of the mammal exhibits successively the encephalic and spinal forms of these three inferior classes.”

When aware of these very curious facts, we are at once provided with a

solution to many of the congenital anomalies of the brain and spinal marrow, which were utterly puzzling and inexplicable a few years ago. If the human embryo passes through all its stages of evolution without suffering any accident or obstruction, the traces of these primitive and temporary stages are effaced in the perfect fetus;—but, on the other hand, if the process of development has from any cause been stopped or arrested, the part of the body, which suffered this arrest, remains in the condition in which it was at the supposed period; and then at birth it will be found to exhibit the form and arrangement, which appertains to some animal inferior to it in the scale of organization.

It will be interesting to devote a few pages to a brief description of the progressive evolution of the Cerebro-spinal axis in the different classes of animals; for the reader will thus see what an intimate resemblance may be traced between its conformation at different periods of fœtal life in man, and its permanent forms in some of the lower animals.

We may premise by stating that the Nervous system is—like all other parts of the body, according to M. Serres and many other able anatomists—formed from the circumference to the centre; and therefore that it affords an argument of the truth of the centripetal or excentric theory. The nerves of the trunk, the lateral nerves of the head, and then the nerves of sense are formed before the spinal marrow or the encephalon; and the two lateral parts of the cerebro-spinal axis will be found to be developed from without inwardly, or in other words from the periphery to the centre.

After this prefatory remark, we now proceed to examine the structure of the nervous system in the various classes of animals, beginning with those most simply organized, and gradually advancing up to the highest of the mammifera.

The lowest class in the animal scale has of late years been denominated *Acrita*,* and includes those zoophytic beings, which are grouped under the orders, polygastrica, infusoria, porifera or sponges, polypifera, and acalephæ or sea-nettles. They are characterised as “gelatinous polymorphous animals, without distinct nervous fibre, or visceral cavities. Alimentary canal excavated in the parenchyma of the body, generally without an anus. Generation in most fissiparous or gemmiparous; in some oviparous. Their nervous system, if it does exist at all, is molecular and consists of globules diffused through the cellular tissue of their homogeneous bodies. Some authors indeed have asserted that some of the genera, such as the *Actinia*, and *Beroë*, possess traces of an aggregated form of a nervous organization, as a distinct system; but this statement has not been confirmed by other anatomists; and we may very safely assert that for the most part all the different systems, in the bodies of these most simple animals, are, as it were, blended together into one uniform, homogeneous, granular parenchyma. Professor Carus has denominated the class *Acrita*, by the name of Protozoa or Oozoa; as being placed on the first step of animal organization, and analogous to the ova or germs of the higher classes; and certainly, although objections may be taken to the propriety of the name, the philosophical

* This term is derived from a Greek word, signifying *indistinct*, or, *not to be distinguished*.

anatomist cannot fail to be struck with the wonderful similitudes that may be traced between them.

We shall avail ourselves of Mr. Anderson's very able and ingenious work, to illustrate this most curious theme. After describing the imperfect traces of a nervous system in the lowest tribe of zoophytes, he proceeds to remark:—

“Let us now turn to the consideration of the human ovum: that we know to consist (when first detected) of a thin membrane inclosing a quantity of transparent limpid fluid; it is of that form which has been presumed to be the primary one of all organic matter—the spherical. In a little time the embryo is visible, as a speck, a globule; its texture is soft and homogeneous; no organs or systems are as yet discoverable. Dr. Blundell has in his museum a preparation of the human ovum, consisting of a delicate membranous cyst, in which is seen a little spot, not so big as a mustard-seed—the embryo. And again! Sir E. Home, in describing the appearance of a very early human ovum, says, ‘that it consisted of two membranes, which contained (besides a slimy fluid) two globules—the rudiments, probably, of the heart and brain.’ Even during the first month of human embryotic life, the minute researches of Tiedemann record ‘that no organ is yet perceptible,—that the cephalic and cervical swellings are altogether transparent, and contain only a limpid fluid.’ The embryo state of the lower animals present similar phenomena. I have had the opportunity of examining a very early embryo of the squirrel, only a line in length, and scarcely half a line in breadth, which was of an elongated spherical form, of an apparently homogeneous texture. The embryo of the common fowl, on the first and second days of incubation, I have found also to consist of a spherical globule or vesicle. Again: the ovum of the frog has a spherical form, and is of a homogeneous pulpy texture.” 6.

Ascending in the scale of animal organization from the class *Acrita*, we come to the class *Radiata*, which includes the *asteriæ* or sea-stars, the *echini* or sea-eggs, the *holothuriæ*, &c. In them nervous filaments—formed by a longitudinally arranged series of nervous globules—are for the first time discoverable. These filaments are so disposed as to form a primary nervous ring round the mouth of the animal, and from this ring proceed minute threads to the different divisions or rays of the body. Such is therefore the arrangement of the nervous system in its simplest form.

In the *Mollusca*, the third class of the animal kingdom, (if we assume the nervous system as the basis of our classification) we find that, in most of them, the apparatus of nerves has acquired a much higher degree of development. Besides the primary nervous ring, we find two ganglia, one situated above, and the other below the *œsophagus*. From the former, the supra-*œsophageal*, are given off the nerves to the eyes, the mouth, the tentacula and the organs of generation; and from the latter—the sub-*œsophageal*—arise the nerves which supply the bulk of the body, its external tunics, most of the viscera, &c. The supra-*œsophageal* ganglia is almost always considerably larger than the sub-*œsophageal* one, and is the earliest rudiment of that most important part of the nervous system, the *brain*. Hence it is sometimes called the *cerebral* ganglion. Mr. Anderson's description is, as follows:—

“The supra-*œsophageal* or cerebral ganglion is the first appearance of a medullary mass corresponding to a brain; and from it arise the optic nerves, already of large size. It must therefore be considered as analogous to the tub.

quadrigemina of the higher animals, and is indeed the first lineament of that cerebral mass which we shall trace through successive complications to the perfect brain of the human species. In fact, in the Cephalopoda, the highest of the Mollusca, we find this cerebral ganglion divided into anterior and posterior lobes, similar to the tub. quadrigemina of the Mammalia; it is of much greater relative size than the lateral or inferior ganglia developed on the primary nervous ring, which, indeed, have here almost entirely disappeared, and have given place to simple largely-developed commissures. Here, then, we have arrived at the highest degree of complication and development of the simple primary nervous ring; and in the next group, the Articulata, we shall find this same highly-developed ring multiplied several times." 9.

The fourth class of animals, in the ascending scale, is that of the Articulata, among which we include the Annelida, such as the common earth-worm, leech, &c. the Insecta, the Arachnida, the Crustacea, the Cirrhopoda, or the tribe of barnacles, &c. It is characterised by the circumstance of the body of the animal being divided into a certain definite number of segments, which correspond to certain divisions of the nervous system, and each of which may be considered as a repetition of the rest. Of these segments the most anterior acquires the greatest development and is called the head.

As a general remark, we may state that, in every segment, there exists a nervous ganglion, and these successive ganglia are connected with each other in the median line of the body by a double longitudinal filament—thus exhibiting the earliest rudimentary example of a spinal cord. If we take for example the Aphrodita, vulgarly known by the name of the sea-mouse, we find the following arrangement of the nervous system.

"It occupies the middle line of the ventral aspect of the body, and consists of a double series of minute ganglia of medullary matter, more or less intimately united or even blended together, and equal in number to the number of rings, of which the body is composed. Hence the appellation of Annelida to the order of animals, comprehending the worms, leeches, Aphrodite, &c.

The ganglia give origin to lateral branches, and are connected together by two cords of communication, sometimes separate, sometimes united into a single trunk, so as to constitute a longitudinal chain extended through the entire length of the body. The first of these ganglia is lodged in the head, or at least at the anterior extremity of the animal, in front of, or above the digestive tube (the supra-oesophageal or cerebral ganglion); the rest are placed below that canal; whence it results that the two nervous cords, which form the media of communication between the cephalic ganglion and the first of the sub-oesophageal series pass along the sides of the oesophagus, and form around that canal a species of collar or ring;—a character which is common to all the articulate animals."

This description is equally applicable to the worm, leech, &c. Such therefore is the arrangement of the nervous system in the lower tribes or orders of the Articulate animals. In the higher orders, such for example as the Crustacea, Insecta, and Arachnida, the organization acquires a greater degree of evolution; the cerebral ganglion becoming more and more developed, and the other ganglia being more determinate as to number and more concentrated as to situation. This gradually-increasing complexity of structure may be traced from the Crustacea to the Myriopoda or centipedes, from these to the Arachnida or true spiders, and thence to the Insecta, the last and highest order of the Articulata, "in which," says Mr. Anderson, "we

find the nervous system very highly organized, leading us by strict analogies to the Vertebrata. I have found it to consist, in almost every order, of a ganglionic nervous cord, running along the abdominal surface, as in the preceding classes, and of a similar supra-oesophageal nervous mass called by Cuvier the brain, from which are given off eight pairs of nerves and two single ones. This nervous cord consists of a varied number of ganglia giving off lateral nervous filaments, and connected to each other by longitudinal sensitive columns. A motor tract has also been recently described by Mr. Newport, passing along the dorsal surface of these columns, and giving off lateral nervous branches. Minute anatomy has also unfolded to us what may be considered as the analogue of the respiratory system of nerves, and a par vagum."

In no part of the nervous system is the increase of development so conspicuous, and for the illustration of our present enquiry so important, as in the supra-oesophageal or cerebral ganglion. We have already stated that this is the analogue, or rudimentary representative of the brain in the higher animals. We have shewn that in the lower tribes of the class Articulata it is a simple ganglion, similar to and only somewhat larger than the other ganglia of the body; but when we arrive at the proper insects and examine it in them, we find that it exhibits a positive division into lateral lobes or hemispheres; that it preponderates greatly in size over the other ganglions; and that the sensorial nerves, which arise from it, begin to present distinct ganglionic enlargements.

Before proceeding to examine the development of the cerebro-spinal axis in the Vertebrata, let us here pause a little, and compare the preceding details with the several transitory conditions or phases of this apparatus in the successive periods of evolution in the higher animals, during their embryotic existence, and we shall discover some very remarkable analogies which have been revealed to us by the labours of philosophical anatomy. The following extract is a long, but a valuable one; and we shall not therefore hesitate to lay it before our readers.

"The anatomical details that have hitherto been made respecting the nervous system are increased in interest when we turn to the consideration of the early human embryo, where, although no such *positive* similarity of conformation exists, as I shall hereafter demonstrate, between the advanced foetus and the Vertebrata, yet strong analogies in structure and development may be pointed out. I have already noticed the early human ovum before any embryo was apparent, and have pointed out the analogy existing between it and the seed of plants, the lowest Infusoria, the monads, &c. I have also spoken of the early embryo itself as a minute spherical homogeneous mass, where the nervous system was supposed to be molecular, as in the Acrita, the lowest Tunicata, and the lowest Entozoa. As the embryo increases in development, nervous filaments are discovered, formed (as we conceived in the Radiata) by a longitudinally-arranged series of globules, these nerves, doubtless sympathetic ones, are then formed before the spinal cord and brain, and previous also to their communication with those two organs—which phenomenon Tiedemann considers best explained by the general law of organization laid down by M. Serres, viz—that the development of the nervous system proceeds from the circumference to the centre. Now, on reflecting on the state of the nervous system of the animals already described, we find that filaments exist in many of them, without any approach to the character of a spinal cord—a mere ganglionic sympathetic system. Arrived, however, at the Articulata, a longitudinal arrangement of closely-approximated

ganglia is observed, forming a double nervous cord, extended along the ventral surface of the animal, at the upper extremity of which on the dorsal aspect a cerebral ganglion is developed. This is highly interesting, from the similar rudimentary condition of similar parts in the human embryo, the brain and spinal marrow, the first visible rudiments of which (according to Tiedemann) appear between the fifth and sixth week, in the form of a whitish vesicular fluid, contained in a membranous canal or tube, in the trunk leading to or forming a cavity or pouch in the head. At the seventh week the spinal cord is large and thick, the rudiments of the two lateral columns of which are manifested in the form of a simple pulpy streak—a nervous streak greatly similar to what I have described in the *Ascaris*, amongst the Entozoa; at the upper extremity it forms, or is contiguous with a mass of medullary matter, the most developed portion of which may be considered as analogous to the cerebral ganglion of the articulata and gasteropodous Mollusca, which itself represents the optic lobes of the inferior Vertebrata, the tub quadrigemina of the Mammalia." 11.

"With regard to any analogy between this state of development of the nervous system in the Articulata and in the human embryo, little more can be observed than that the structure of the ganglionic abdominal cord in the Insecta bears a strong analogy to that of the spinal cord in the Vertebrata generally, and in man individually; that the high development of the cerebral ganglion, its division into lobes, and the ganglionic enlargements of the sensorial nerves, may be considered as analogous to the early and great development of the tub. quadrigemina in the human embryo, and the early appearance of the optic nerves." 15.

We are now prepared to pass to the examination of the nervous system in Vertebrate animals, that great class or division of the zoological scale which includes fishes, reptiles, birds, and mammals, and of which man is the most exalted member in point of development and organization. We have already pointed out certain analogies which may be traced between the nervous system of Invertebrate animals, and the early or primitive condition of this system in the human embryo. But these analogies, although full of marvellous interest and most deserving of attention by the philosophic physiologist, are at best but vague and glimmering. Not so however with those, which may be easily shewn to exist between these embryotic conditions, and the normal and perfect conditions of the brain and spinal cord in the successive classes of Vertebrate animals, from fishes up to the quadrumana among the mammals. They are not merely *analogies*, but strict and most indubitable *resemblances*. They are almost exact counterparts, the one of the other. It will appear for example, that at a certain period of fœtal existence, the human brain exhibits the appearance of this organ in fishes; and that, as it advances in development, it repeats, so to speak, the normal condition of the same part in reptiles, in birds, and in the lower mammals, until at length it reaches its perfect formation, such as we see it in the full-formed child.

The mere mention of so curious and instructive a subject as this cannot surely fail to excite the attention of all who feel an interest—and who is there of enlightened education who does not?—in searching out the wonders of Creative Power.

How strange, how marvellously beautiful are the works of Nature! The more we study them, the more we are lost in admiration at the countless variety of her productions, and at the simple and harmonious laws which guide and direct all! Nowhere do we find more vivid proofs of the multiplicity of effects from unity of cause, than in the study of the de-

velopment of the vegetable and animal kingdoms. We trust that the short and imperfect exposition of the subject, which it is our aim to give in the present article, may serve to diffuse a fondness for philosophical anatomy, a science hitherto so much neglected in this country. With the exception of a very few recent labourers—and of these perhaps the most meritorious are Professor Grant, Mr. Owen, Mr. Newport, and we shall add for the sake of encouragement Mr. Anderson—our knowledge of this delightful study is altogether drawn from the labours of the German and French physiologists. To Tiedemann and to Serres, we are most largely indebted; and it is from their works that we derive most of the following details. Before describing the structure of the cerebro-spinal axis in the Vertebrate animals, it is proper to premise that, in all the classes, the encephalic portion consists of three divisions or segments—an anterior portion or cerebrum, a posterior portion or cerebellum, and a median portion or the mass of the tubercula quadrigemina. Thus, says Mr. Anderson, the number of ganglia forming the brain, the most highly-organized part of the nervous system, is definite and invariable; while the number of ganglia forming the spinal cord, the least organized part, is indefinite and variable.

In Fishes, the lowest order of the class, the following may be taken as a general description of the cerebro-spinal axis.

“The spinal cord is remarkable for its great relative size in this class of animals; it is continued (with but very few exceptions) the whole length of the vertebral column, even into the caudal vertebræ, and it has on its anterior and posterior aspects a longitudinal fissure, the latter being the deepest; internally it is hollowed out by a canal, which traverses it in its whole extent, and which at the upper part, immediately posterior to or underneath the cerebellum, forms a considerable dilatation or enlargement—the fourth ventricle. In a river lamprey (*Petromyzon fluviatilis*), weighing 570 grains, I found the brain to weigh only four-tenths of a grain, while the spinal cord weighed three grains, the proportion being as 100 : 750. We thus observe how much the latter preponderates in size, being seven and a half times heavier than the brain.” 17.

The appearance of the brain itself varies a good deal in the different tribes of fishes. In all, it is of very small dimensions, in reference not only to the size of the animal, but also to that of the spinal marrow.

“Its very small size is at once evident by comparing its weight with that of the whole body of the animal; thus I found in a chub weighing 842 scruples, the brain weighing only one scruple, the proportions being as 100 : 84,200; in a carp, weighing 11,280 grains, the brain weighing only fourteen grains, the proportions being as 100 : 80,600; in a roach, weighing 5030 grains the brain weighing only nine grains and a half, the proportions being as 100 : 52,900; and, as I before observed, in a lamprey weighing 570 grains, the brain weighing only four-tenths of a grain, the proportions being as 100 : 142,500. We thus observe how little relative size the brain bears to the rest of the body, and consequently how small is as yet the encephalic mass. On taking a general review of the conformation of the cerebral masses forming the brain of fishes, we find it to consist of a suite of ganglia arranged behind each other—two pairs and a single one;—1st, there are two ganglia or lobes, situated the most anteriorly, the olfactory lobes; immediately behind which are two others, generally of larger size, the optic lobes; and behind these, again, is a single ganglion or lobe, situated in the median line, the cerebellum.” 18.

The olfactory or anterior ganglia are considered, by the best anatomists, as the analogue or representative of the cerebral hemispheres in the higher

animals; and the optic or middle ganglia as that of the tubercula quadrigemina. The latter bodies are generally of large size in fishes, and contain internal tubercles and cavities, which communicate with the fourth ventricle. The cerebellum is imperfectly developed.

Let us now compare with the structure described, the state of the spinal cord and brain in the human fœtus at an early period of its intra-uterine existence.

In the *third* month the spinal cord is a hollow cylinder of nervous matter, having a longitudinal groove on its anterior and posterior aspects, and containing a central canal, which traverses its whole extent, and, as in fishes, dilates at the upper part to form the fourth ventricle.*

Its volume, in proportion to that of the brain, is much more considerable at this period, than it is afterwards; and moreover it extends to the very extremity of the vertebral canal, in the sacrum and coccyx, and exhibits no trace of cauda equina. The same arrangement is found in fishes; the medulla in them being prolonged into the extreme point of the caudal extremity of the animal, and terminating in a point.† The superior portion of the cord, the medulla oblongata, is large and broad; the pyramidal fasciculi are seen continuous with the crura cerebri, as in fishes; and the restiform bodies, after separating to form the fourth ventricle, pass into the cerebellum.

So much for the spinal marrow. Now with respect to the encephalic portion of the nervous centre. Mr. Anderson says:—

"This description of the first cerebral mass in the fishes will be accurately represented in the human embryo at the middle of the third month, at which time, according to Tiedemann, the cerebral hemispheres, or *first cerebral mass*, or olfactory tubercles, consist of two membranous vesicles covering the corpora striata and the optic chambers partially. The tub. quadrigemina and the cerebellum are quite exposed; their surfaces are quite smooth, and free from convolutions." 19.

"Turning to the consideration of the *second cerebral mass*, or optic lobes, or tub-quadrigemina, in the human fœtus at the age before spoken of, (the third month) we find that they consist (according to Tiedemann) of two proportionally large distinctly-separated masses, uncovered by the hemispheres, containing a large cavity, and giving partly origin to the optic nerves." 20.

And lastly, of the cerebellum, he adds "that the permanent form of

* This central canal of the spinal marrow has been occasionally met with in the human adult by Morgagni, Malpighi, Haller and others. Such an anomaly must be considered as the result of an arrested development, as no such canal exists in the perfect state.

† M. Serres and other embryologists assure us that, at this early period of intra-uterine existence, there is actually a caudal prolongation of the coccygeal vertebræ in the human fœtus, and that this *tail* is gradually absorbed, just in the same manner as the tail of the tadpole is removed by absorption during the transformation into the frog. In the tadpole, the spinal cord is found to be prolonged through the coccygeal vertebræ; but, as the metamorphosis proceeds, and as the tail becomes absorbed and the extremities are developed, a gradual retraction of the cord takes place. M. Serres says that he has observed similar changes in the human fœtus.

this part in many tribes of fishes is accurately represented in the human fœtus at the *third* month.

Advancing in our comparative investigation of the development of the nervous system, we now proceed to state its condition in the next class of vertebrate animals, the Amphibia and Reptilia. The brain and spinal marrow in these animals bear a great similarity in structure and development to those of fishes. As in them, the spinal cord still preponderates greatly in volume over the brain, extends down (except in the adult frog) the whole length of the caudal vertebræ, contains a central canal which communicates with the fourth ventricle, and is deeply fissured by a longitudinal groove on its anterior and posterior surfaces.

On examining the brain, we find, as before, three principal parts to occupy our attention—the olfactory tubercles, the optic lobes, and posteriorly the cerebellum. With respect to the first or olfactory tubercles, they now become obviously the cerebral hemispheres; they are of an increased proportional size, commencing to cover the corpora quadrigemina; and they are found to contain a cavity. The optic lobes are of small size and are more solid than the same parts in fishes; their internal cavity being smaller and their general conformation approaching more to the form and character of the tubercula quadrigemina of the mammalia.

The condition of the cerebro-spinal axis in the human fœtus, which may be considered as analogous to and represented by the permanent condition in the class now described, is exhibited during the *fourth* and beginning of the *fifth* months of embryotic life. Tiedemann assures us that, up to the sixth month, the spinal cord contains a large central canal, similar to that found in reptiles. We also observe that it gradually diminishes in relative size—a consequence of the increased development of the encephalon.

It is unnecessary to particularize the analogies, which are to be traced between the encephalon of the early fœtus and that of reptiles, after what we have stated respecting the structure in fishes.

We proceed, therefore, up the scale of organization, to birds.

In them, the spinal cord although of less relative size and of less extent than in fishes and reptiles, is still, as in them, traversed by a distinct anterior and posterior longitudinal fissure, and it still contains a central canal.* The proportional volume of the cord and the encephalon is now so much altered, that the latter is found to preponderate over the former—a most convincing proof of exalted development in the nervous system.

Very analogous is the state of the cord in the human fœtus, in the *fifth* month. It cannot be traced lower than the sacrum, terminating there by a slender filament. As already observed, it still also contains a central canal.

With respect to the brain in birds, it is found to exhibit a similar number of parts—the anterior, olfactory, or cerebral masses, the optic lobes, and the cerebellum—as in reptiles; but the parts are more highly developed, and are no longer arranged in a longitudinal series as formerly, but are situated more above, or on the top of, each other.

* The spinal marrow in birds does not descend lower than the sacrum; that portion of it, which passes through the coccygeal vertebræ, being considered by many anatomists as only a large terminal filament.

The anterior masses are now distinctly recognised as constituting the proper cerebral hemispheres; they are of greater relative size than any other parts of the brain; they are united to each other by a commissure, the anterior commissure, and above this by another commissure, which Meckel regards as the rudiment of the corpus collosum; they contain cavities, which are true lateral ventricles, and in them we discover a tubercle or enlargement, corresponding to the corpus striatum in mammals.

The optic lobes or second cerebral mass are of small size, and are more separated from each other, than in the preceding classes. Each of them contains a small cavity, which communicates with the third ventricle. The cerebellum has now attained a great degree of development, and bears a striking analogy to this part in the higher animals. It consists of a more or less rounded median lobe, with very small lateral appendages; its external surface is marked by transverse sulci; and, on being divided, it exhibits traces of the *arbor vitæ*.

The following extracts from Mr. Anderson will exhibit the analogy of the structures, now briefly noticed, with the state of the fœtal brain in the fifth and sixth months.

"At that time, according to Tiedemann, the cerebral hemispheres, or *first cerebral mass*, are smooth and free from convolutions, as I have myself observed in two fœtuses of that age; they have a more convex oval form, and are developed backwards so as to cover the superior surface of the tub. quad., leaving the posterior surface exposed, as I have just described in the birds. The anterior commissure exists, as also the corpus callosum; but this latter is very small and narrow, as I have myself observed."

"With regard to the tub. quad., or *second cerebral mass*, in the human fœtus at the age before spoken of (the fifth month), we find they are smooth and more convex, still hollow, though the cavity is somewhat diminished, and presenting no traces of the four eminences which are subsequently to be developed. The optic lobes in birds, their analogues, have also been described as two smooth, convex hollow masses, but in which the internal cavity was less than in the preceding classes. Their situation with regard to the cerebral hemispheres appears different from the human fœtus, but the quantity of surface uncovered by them certainly bears a great analogy of development." 25.

"In the human fœtus at the fifth month the cerebellum is much increased in size, and for the first time, according to Tiedemann, 'presents evident traces of the division into a central part and two lateral hemispheres;' for the first time, also, 'transverse grooves, four in number, are perceptible, dividing the organ into five lobes, which represent in a perpendicular section exactly five stems: the branches or leaflets do not yet exist, consequently the appearance of the *arbor vitæ* is but faint.'" 26.

We are tempted to extract also the following observations, containing a resumé of the whole.

"On reviewing these statements of the nervous system in the birds, and in the human fœtus at the fifth month, we observe that the brain and spinal marrow are no longer situated on the same horizontal plane, and that the preponderance is now in favour of the brain: its weight, too, when compared with the body, is greater; and the ganglia composing it are more above, and less behind each other. The primary cerebral mass has now acquired so high a degree of development as to surpass the others in size; no convolutions are, however, yet apparent on its surface; no large commissure yet exists to unite them. The optic lobes, or median cerebral mass, are small, separated from each other, and

their cavities have decreased. The cerebellum, or third cerebral mass, is large; traces of lateral lobes are evident, and external striæ are perceptible." 26.

We now arrive at the last and highest class of the animal kingdom, the mammalia, to which man belongs, and in which the nervous as well as all the other systems of the body acquire their most complicated and perfect development. The transition from the preceding class in point of organization is very gradual and not marked by any abrupt or very distinctive changes. The spinal cord for example, although of less relative size than in any of the preceding classes, exhibits the same conformation; it is still traversed by the anterior and posterior longitudinal fissures, but these fissures are less deep; and it still exhibits a central canal in all, except in man. It does not descend so low down in the vertebral canal as in birds, but terminates usually about the lower lumbar vertebræ in a true cauda equina, or leash of nervous filaments,

It is in the structure of the encephalon however that we discover the most conspicuous proofs of a more exalted development. Its direction with respect to the spinal cord is no longer horizontal or in the same line, as it is in fishes and reptiles, but approaches more or less to a right angle; the first traces of which inflexion were perceptible in birds. Its relative size and bulk are greater than in any of the preceding classes, and the different parts, of which it consists, are more numerous and more complicated. We shall now briefly notice these changes, as they affect the cerebral hemispheres or first cerebral mass, the optic lobes,* or second cerebral mass, and the cerebellum.

1. The cerebral hemispheres, or anterior mass, have now acquired a high degree of development. They are of a large size, compared with the rest of the encephalon; but this relative size varies much in different tribes. In some, these hemispheres very much resemble the same parts in birds; being small, and presenting no traces of convolution on their surface, and leaving the tubercular quadrigemina quite exposed. This is the case in the dolphin, in the bat, in the rabbit, rat, mouse, &c. In the pig, horse, ass, sheep, and deer, they are proportionally larger, extending backwards so as to cover the tubercula; and moreover the surfaces are convoluted. In the monkey tribe, they are still larger, more rounded and elevated, broader in the middle, and extend further backwards, so as to cover the cerebellum; the convolutions also are more numerous than in the other classes; the fissure of Sylvius is deeper; and we first discover the existence of posterior lobes, as yet but of small size, and unconvoluted. In the ourang-outang they are altogether larger, and approach more nearly the form and character of the human brain, covering the cerebellum entirely, and convoluted on their posterior lobes.

The corpus callosum, or great commissure of the cerebral hemispheres—which makes its first appearance in mammiferous animals—varies much in size in the different tribes of this class.

* The reader should well remember that the parts denominated the optic lobes are not the thalami optici—a mistake which the resemblance of the names is apt to produce—but rather the corpora quadrigemina, from which the nerves of vision arise.

It is very short in the bat, rabbit, rat, mouse, &c. longer and broader in the pig, ass, sheep, &c., and still more developed in the quadrumana, attaining its maximum of development in man.

With respect to the lateral ventricles of the brain, they are proportionally larger in the inferior groups of mammals; becoming more contracted and smaller in relation to the size of the hemispheres, in those animals which approach the human species,

If our space permitted, we should allude to the gradually increasing development of other parts, such as the cornua of the ventricles, the corpora striata, fornix, thalami optici, &c. But the investigation of these minutiae we must leave to the curiosity of the reader. We must not, however, omit to mention a peculiarity of the olfactory nerves in most mammiferous animals, as it furnishes another very beautiful instance of the exact similitude between the permanent development in the lower animals, and one of the transitory and successive phases of development in the human fœtus.

These nerves are hollow and their cavities communicate with the lateral ventricles. Now this very state of parts exists in the human fœtus up to the seventh month of gestation.

2. The optic lobes, or second cerebral mass, (or, as they are now to be called, the tubercula quadrigemina) consist in all mammals of an anterior and posterior pair of ganglia, which vary much in size and in position. In the lower mammals, the anterior pair are the largest, and are bulky, compared with the cerebral hemispheres: in the horse, sheep, deer, &c. the anterior are still the largest, but they are of less proportional size to that of the brain; in the monkey the two pairs are nearly of equal size, and exhibit less relative volume—thus approaching very much to the characters of the tubercula quadrigemina in the human adult brain.

3. The cerebellum, or third cerebral mass, exhibits great differences in the size of the mass itself, and, of its different parts, according as the animal is high or low in the development of its encephalon. It is largest, compared with the brain, in the bat, rabbit, rat, &c.: somewhat proportionally smaller in the sheep, deer, horse, &c.; and very considerably smaller in the monkey. The division of its mass into lateral and median lobes is better marked, and the convolutions or the striæ on its surface are more numerous and more distinct, as we rise in the scale of organization. Hence these characters are more conspicuous in the quadrumana than in any of the lower tribes and approach in their development, very nearly to the appearance of the human cerebellum.

The rapid review, which we have thus taken of the gradually-increasing complexity in the development of the cerebro-spinal axis in the different orders of the mammiferous class, from the rodentia up to man himself, will enable the reader to trace the very striking analogies which may be traced between these various forms and the successive phases which the human brain undergoes during fœtal life, until at length it attains its mature development.

With respect to the spinal marrow, there is little more to be added to what we have already stated. We have shewn that, in the young embryo it descended as low in the vertebral canal as the extremity of the sacrum, and that it contained a central longitudinal canal.

As the fœtus advances, the cord becomes gradually more and more retracted upwards, until at length, in the ninth month, it does not descend lower than the third or fourth lumbar vertebræ. As this change—a change altogether analogous to that, which the spinal cord of the tadpole undergoes during its metamorphosis to the state of a frog—is going on, the cauda equina becomes more and more distinct, and the central longitudinal canal becomes narrower and narrower, until at length it is obliterated during the eighth month.

No less striking are the successive changes which the human cerebrum and cerebellum pass through, in their progress to perfect evolution.

We have already seen that the state of the fœtal encephalon at the *fifth* month is very analogous in many respects, to that of the organ in birds. The cerebral hemispheres are comparatively small, unconvoluted, and not covering the tubercula quadrigemina. The fissure of Silvius is not deep or distinctly marked. This description is strictly applicable to the brain of the bat, rabbit, and most of the Rodentia. In the *sixth* month, these hemispheres have enlarged so much that they cover the tubercula, and their internal surface begins to exhibit grooves, the rudiments of the convolutions. These marks of increased development are met with also in the pig, horse, sheep and cat. In the *seventh* month, the cerebral hemispheres are so much increased in size, that they extend even a little beyond the cerebellum; their surface moreover exhibits depressions here and there; and the fissures of Silvius have become considerably deeper. At the *eighth* month, the anterior, middle, and posterior lobes are well defined; the grooves, depressions, and convolutions have become deeper and more numerous, excepting on the posterior lobes—and this is found to be the case in the brain of the quadrumana.

The gradual development of the corpus callosum in the foetal brain furnishes other proofs of similar and most interesting analogies. In the *fifth* month, it is only just apparent, such as we find in the brain of birds; at *six* months, it is very short and narrow, as in the bat, and in the lower Rodentia; at *seven* months, it is larger, covering the optic chambers and third ventricle, as in the Pachydermata, Solipeda, Ruminantia and Carnivora; and at *eight* months it extends to the anterior pair of the tubercula quadrigemina, as in the Quadrumana.

If we next attend to the lateral ventricles, their characters also vary much at different periods of fœtal evolution. In the *fourth* and *fifth* months, they are very large, as in reptiles and birds; and we find that they become proportionally smaller and smaller, as the fœtus advances—thus typifying, if we may use the expression, the condition of these cavities in the different orders of the mammiferous class.

The communication, existing between the anterior cornua and the cavities in the substance of the olfactory nerves up to the seventh month, has been already alluded to.

Let us now direct our attention to the gradual evolution of the second cerebral mass, the Tubercula Quadrigemina.

“The tub. quadrigemina, or *second cerebral mass*,” says Mr. Anderson, “in the latter months of the human fœtus pass through a similar grade of development. I have already spoken of their organization up to the fifth month, when they were compared to the same parts in the birds, and may now be compared

to the Cheiroptera and Rodentia amongst the Mammalia. At the sixth month, according to Tiedemann, they are quite covered by the cerebral hemispheres, and their internal cavity is diminished; at the seventh month they are divided into two pairs of ganglia, the nates and testes,—the internal cavity is nearly obliterated, and the communication of the fourth ventricle with the third is reduced to a mere canal, constituting the aqueduct of Sylvius, and their structure altogether is the same as at the eighth and ninth months, and as in most of the higher Mammalia." 30.

The development of the cerebellum presents equally striking proofs of the analogies, which we have so frequently spoken of. It is therefore unnecessary to detail them.

We have thus completed our examination, founded on the results of comparative and of embryological anatomy, of the nervous system; and we trust that our readers will experience the same delight, which we have felt ourselves, in studying the operations of living nature, and in being made to know the steps, as it were, by which she works in building up the marvellous machinery of our own bodies. It may be useful to recapitulate briefly the most important conclusions which may be drawn from the preceding descriptions.

" 'These are,' to borrow the language of Mr. Anderson, 'that Nature follows an uniform plan in the creation and evolution both of the brain of the human fœtus and of that of vertebral animals.'

2. That the brain of the human fœtus, at certain stated periods during its passage from a simple to a complicated state, is twice represented in nature; that is, by a permanent form, and by a transient form of the brain of a lower class of animals. Thus, the human fœtal brain at the fourth month, is permanently represented by the reptiles, and transiently represented by the fœtal chick at the sixteenth day, and the fetal sheep at the eighth week.

3. That the analogies in the structure of the brain in the human fœtus, and in animals, are uniform in their existence, and are applicable to each portion of the cerebral mass, at one stated period of its development in man, and in one particular class of animals. Thus, the analogy in the conformation of the human fœtal brain at the fourth month, and in the reptiles, exists in each portion of the cerebral mass, and not in one particular portion only.

4. That the definite periods at which these analogies are most apparent may be established as under.

We may also reasonably infer, that similar analogies exist, and similar modes of development are pursued, in the evolution and perfection of every other organ or system in the body.

Human Fœtal Brain.

Brain of Animals.

3d month	Fishes
4th month	Reptiles
5th month	Birds
6th month	Mammalia (Ruminantia, Carnivora, &c.)
7th month	Mammalia (Lower Quadrumana)
8th month	Mammalia (Highest Quadrumana)
Ninth month."	

Here therefore we shall stop in our examination of those analogies, which may be traced between the transitory formations of the fœtus, and the permanent formations in the different tribes of lower animals.

There is still another topic of Embryological anatomy, to which we now wish to direct the reader's attention—we allude to the evolution of the

generative organs, and to the explanation, which the study of this affords, of those singular irregularities of structure, to which the term of Hermaphroditism has been applied. The subject is one of very great interest, not only as being illustrative of some of the more remarkable doctrines of philosophical anatomy, but also as involving some questions of practical importance. We have deemed it better to introduce the discussion of it at this than at an earlier part of our paper, as the details, which we are about to describe, might have distracted too much the attention of the reader from the general positions, we were endeavouring to establish. It may be useful to premise that the development of the generative organs in both sexes is beautifully accordant with and illustrative of M. Serres' theory—that of the Centripetal or Excentric formation of the body. Some of the parts of this apparatus are, it is well known, single, others are double; but they all agree in being strictly and uniformly laterally symmetrical. The one lateral half is in every respect the counterpart of the other lateral half. The cause of this uniform symmetry in the single, as well as in the double, organs is at once readily explained by bearing in mind, that in the young *fœtus* the former consist of two lateral halves, developed apart from each other, and ultimately coalescing along the mesial line. Now almost all the structural irregularities of the sexual organs, in other words, almost all the varieties of Hermaphroditism will be found to resemble most accurately the embryotic conditions of these organs, at different periods of intra-uterine existence.

All cases of Hermaphroditism may be conveniently and very appropriately arranged under two great classes—into the “hermaphroditisme sans excès,” and the “hermaphroditisme avec excès;” or into Simple and Compound Hermaphroditism.

In the *former*, the actual number of the generative organs is not changed; and the anomalies, which they may exhibit, appertain only to the configuration and structure of the parts. In the *latter* class, the number of these organs is positively increased, either by certain of the male parts being superadded to the female apparatus, or vice versa. It is of the greatest importance that this two-fold division of Hermaphroditic malformations should be attended to in examining and describing any individual case, as the two classes are separated from each other by well-marked and very natural distinctive characters. To Meckel, the distinguished German anatomist, is due the merit of having first accurately pointed out and ably illustrated the classification of Hermaphrodites.

The varieties of simple Hermaphroditism—“H. sans excès”—are very numerous. In some cases the structural irregularities are so inconsiderable, that we have no difficulty in at once discovering the sex of the infant. The *ensemble* of the generative apparatus is decidedly either masculine or feminine; one or two only of the subordinate parts exhibiting perhaps the opposite or inverse sexual condition. In other cases, on the other hand, the confusion is much greater and consequently is more perplexing. This may depend *either*, upon all the external organs being, as it were, half male and half female, an apparatus essentially male having a tendency to assume the characters of the female, or an apparatus essentially female having a similar tendency to assume the characters and type of the male; *or*, upon some parts of the apparatus appertaining strictly to the male sex, while other

parts of the same apparatus appear to be as truly appertaining to the female.

M. St. Hilaire has, in accordance with these differences now described, arranged all the cases of Simple Hermaphroditism in four subdivisions—the *masculine*, the *feminine*, the *neutral*, and the *mixed*. In the first, the apparatus, although malformed, is essentially and obviously male; in the second, it is as obviously female; in the third, the parts have assumed characters intermediate, as it were, between those of the male and of the female; and lastly, in the fourth, certain parts seem to be strictly male, while other parts seem to be as strictly female.

The second great division also of Hermaphroditism—that which is characterised by the circumstance of the number of the generative organs being actually increased, and in which there are certain supernumerary parts present, while the rest of the apparatus may be either normal or not—has been conveniently subdivided into several groupes, according to the more prominent characters of the case. Thus, if the *ensemble* of the apparatus is decidedly male, and to this male apparatus one or more of the female organs are superadded, the anomaly has been called “Masculine Compound Hermaphroditism;” if on the other hand, certain male organs are co-existent with an apparatus truly and essentially female, the case is one of “Feminine Compound Hermaphroditism;” and lastly, to the extreme cases, where there are two distinct apparatus, one female and the other male (more or less incompletely developed) in the same body, the term “Bisexual Hermaphroditism,” has been applied.

Such is a short notice of the classification of Hermaphroditic malformations. We shall now proceed to examine whether any rational conjecture can be formed as to the mode, in which these strange structural irregularities take place. There is not one subject in the whole range of physiology, which, until of late years, was so impenetrably mysterious and so utterly bewildering to the student of nature, as the etiology of hermaphroditism; and, although much progress has been made, by some of the ablest French and German anatomists of the present century in this field of embryological science, and their discoveries and researches have taught us to explain the manner of occurrence of some of the irregularities in the development of the generative apparatus, we are still far, very far from being able to give a philosophical interpretation of the whole subject.

It has been to the successful study of comparative anatomy in the first instance, and subsequently to that of embryogeny in the different classes of animals, that we are mainly indebted for the light which, of late years, has been thrown on this obscure path of enquiry.

The labours of the comparative anatomist have discovered that, in certain tribes of animals, the male and the female organs of generation differ so little from each other in appearance and in formation, that they may be fairly considered not only as analogous, but as almost exactly similar, to each other. This resemblance is in some instances so great that difficulty is experienced in distinguishing the two sexes.

While comparative anatomy teaches us this important fact, the study of the successive developments of the embryo has led to the wonderful discovery, that at a very early period of intra-uterine existence the male and female organs are so strikingly alike, that the sex of the fœtus cannot with

certainty be predicated.* It is this anatomical analogy—so beautifully illustrated by the researches of the elder St. Hilaire, of Blainville, Meckel, Serres, and some other continental writers—which is the key to the solution of almost all the irregularities or malformations in the development of the sexual apparatus. For, if each part of the apparatus in one sex is essentially analogous in its elementary composition and evolution to a corresponding part of the apparatus in the other sex, and if their subsequent differences result simply from certain differences (the nature of which, we must confess, is quite beyond our knowledge) in the mode or in the degree of their evolution, nothing is more easy than to conceive the existence of a state of development intermediate between that of the one sex and that of the other. For example, if the clitoris may be regarded as a rudimentary or imperfectly developed penis, and, on the other hand, if the penis may be regarded as an exaggerated and hypertrophied clitoris—the one being, as it were, at the *minimum*, the other at the *maximum* of evolution—we can at once understand how every defect of development in the one case, and every excess of development in the other, must necessarily tend to the formation of an organ or structure intermediate between the penis and the clitoris.

It is by following out this principle of investigation, that we shall be enabled to explain very many, if not most, of the varieties of simple Hermaphroditism—the “hermaphroditisme sans excès” of continental writers.

For the purpose of facilitating and of giving precision to this enquiry, M. St. Hilaire divides the organs of generation in both sexes into three sections, viz: the external, the middle or central, and the deep-seated or internal. The external comprehends the penis and scrotum in the male, the clitoris and vulva in the female; the middle or central comprehends the prostate gland and vesiculæ seminales in the male, and the uterus in the female; and by the internal or deep-seated, he means the testicles with their appendages in the one sex, and the ovaries with their appendages in the other. This *trinary* division of the generative apparatus is much more important in M. St. Hilaire's opinion, than may on first consideration be imagined. It is not arbitrary, and adopted merely for the purposes of description. It is strictly and truly a natural division; for we shall find that each of the three sections is developed independently of the other two; and, therefore, that while one section may be formed perfect and entire, the others may be most imperfect and anomalous.

M. St. Hilaire has very ingeniously attributed this independence of formation to the anatomical arrangement of their vascular supplies. The three sections derive their blood from three different sources; and we shall find that the analogous or corresponding parts of both sexes are supplied by the same bloodvessels. Thus the ovaries and testicles are nourished by the spermatic arteries; the uterus and the prostate gland with the vesiculæ seminales by branches from the hypogastric; and the external organs by the pudic arteries.

This relation of the different parts of the sexual apparatus with the sources

* This circumstance explains an error which has been frequently committed in the history of monstrosities. It has been incorrectly said that they are much more common in the early female than in the early male fœtus.

of their vascular supplies is not accidental or subject to change. M. St. Hilaire believes it to be uniform and invariable, not only in the normal development of the organs, but also in monstrous irregularities. He has never found the organs of one of the three sections supplied by the arteries, which properly appertain to either of the others. For example, the uterus is never supplied by the spermatics, to the exclusion of branches from the hypogastrics; the testicles, on the other hand, are never supplied from the pudics, &c.

It is by keeping strictly in mind the two great laws or doctrines now adverted to—first, that in the young embryo the generative apparatus is without a determinate sex; and secondly, that the apparatus in each sex consists of three segments or divisions, which are in a great measure independent of each other in their development—that the philosophic anatomist has been enabled to solve some of the most puzzling enigmas of Hermaphroditism.

We do not mean to say that any light has been thrown on the mysterious question, what is the *cause* of those irregularities of development, which give rise to hermaphroditism. We cannot, indeed, expect to solve this question, until we have discovered what is the determining cause of the distinction of the sexes. Numerous very idle conjectures have at different times been proposed to explain this arcanum of nature; but it is almost unnecessary to say, that we know nothing certain on the subject. It is however worthy of mention, that there are some very curious facts in the natural history of some animals, which seem to throw a faint glimmering on the secret workings of this plastic Power, which generates, and evolves, and matures the wonders of animated creation. We shall very briefly allude to them.

Upwards of fifty years ago, our great countryman, John Hunter, published in the Philosophical Transactions an account of the animal, which is called by the farmers a "Free Martin." Our readers may not know what a Free Martin is. We shall therefore briefly explain its meaning. When a cow bears two calves at a litter, one of them being a male and the other appearing to be a female, this latter one is very generally an *imperfect* animal: in short, it is an Hermaphrodite, and is incapable, in after-life, of generation. Now this being an almost uniform occurrence in the cow tribe, some reasoners have been led to regard it as a proof, that there is a tendency in nature to the production of but one sex at the same time; and therefore that, when there are several fœtuses developed during one pregnancy, they have all more or less a disposition to assume the same sex. This however is altogether too loose and conjectural an idea to merit much attention.

The effect of removing the testes from the male and the ovaries from the female is, it is well known, to produce an animal neutral, as it were, and intermediate in appearance and character between the two sexes. The atrophy from age of these distinctive organs causes similar changes. Thus the females of some of the ruminantia, as the goat, deer, &c., sometimes acquire in their old age horns and antlers; although these appendages are, properly speaking, peculiar to the males of these animals. Analogous changes have been observed in other tribes of the mammifera. But it is especially in the class of birds, and more particularly in the members of the Gallinaceous family, that the approximation of the female to the male animal, under

certain circumstances, is most conspicuous. When from age the hen ceases to lay eggs, or when from any cause, as disease of the ovaries, she is incapable of breeding, not only does her plumage often acquire all the characters of the cock bird, but often even a regular comb and wattles are formed. These changes have been observed to be more remarkable and decided in the gallinaceous than in perhaps any other tribe of birds.

From such facts as these now alluded to, it is not an unfair deduction to draw, that the decay of the energies or functions of one part of the generative apparatus has a marked tendency to approximate the animal to the condition and character of one of the opposite sex. The ovaries in the female, and the testicles in the male, are truly and strictly the *essential* organs of generation; and *therefore* it is that an injury of these parts induces, in general, a decided change in the whole system of the body. Reasoning upon these data, our author has been led to form the ingenious conjecture, that in the production of simple Hermaphroditism—'hermaphroditisme sans excès'—the cause or determining influence is exerted primarily on the ovaries or testicles of the embryo, and that the anomalies or irregularities of development in the other parts of the sexual apparatus are always consecutive to, and dependent upon the antecedent affection of these organs.

If this conjecture prove to be correct, a most important step in the etiology of Hermaphroditism would be attained; for it would necessarily follow, that all the varieties of this strange irregularity of formation are attributable to a primary affection of the ovaries or of the testicles. The question then would come to be, can we form any rational conjecture as to the nature and cause of that primary affection? M. St. Hilaire, while he admits that the subject is most mysterious, and that perhaps all our speculations amount at present to little better than ingenious guess-work, directs our attention to the possible effects, which atrophy or hypertrophy—in other words, an impeded or an exaggerated nutrition of the organs, from some inequalities in their vascular supplies—might have in the production of Hermaphroditism.

But it is time to quit the field of transcendental speculation, and to betake ourselves to the more humble task of simply narrating and describing some of the most common and the best-authenticated varieties of this malformation. We have already shewn that all the cases of Hermaphroditism may be arranged in one of two classes—according as the number of the generative organs is, or is *not* increased: and we have also shewn that these two classes may be conveniently subdivided into several orders or sections. The first class, that in which the number of the organs is *not* increased, Simple Hermaphroditism, [h. sans excès] comprises four orders—the masculine—the feminine, the neutral; and lastly the mixed. We shall briefly notice the most interesting characters of each of these in detail.

Simple Masculine Hermaphroditism. In examining a case of this variety, there may be considerable doubt during the life of the individual as to his proper sex, in consequence of the extreme degree of structural malformation of the external organs; but all doubts are at once removed, if there is an opportunity of examining the body by dissection. The *essential* organs of the male generative apparatus will certainly be discovered: and the pre-

sence of these alone is always sufficient to determine the sex. The simplest form of masculine hermaphroditism is that condition of the male organs, where the penis and testicles are merely imperfectly developed; where the penis is unusually small, and where the testicles perhaps have not descended into the scrotum. Sir E. Home has described the case of a youth, 23 years of age, in whom the penis was of most infantine dimensions, and quite incapable of erection, and in whom the testicles were not larger than those of a year-old child. In this man, as indeed in almost all cases of a similar description, the whole system appeared to have sympathized with the *sub-masculine* condition of the generative apparatus. The body was weak and feminine, there was little hair on any part, the voice was thin and feeble, and the mammæ were unusually prominent.

Such is the first degree or simplest form of masculine hermaphroditism; the sexual organs are imperfectly developed, and the general constitution of the individual has acquired a character, neutral and, as it were, intermediate between those of the two sexes.

In the second form or degree of this variety, the malformation of the generative organs is much more serious, and their resemblance therefore to those of the female becomes much more striking. Not only is the penis always exceedingly small, but it is often imperfect at the same time. Thus in some cases the glans is imperforate; and in others the urethra is cleft on its lower surface along a greater or less extent, so that it has become, instead of a tube, a mere deep groove or open canal. In addition to these irregularities, the scrotum is frequently divided into two lateral parts by a deep fissure in the line of the raphe. In this manner the cleft scrotum takes on much of the external appearance of the vulva, with its labium pudendi on each side.

When the scrotal fissure is very deep, the resemblance to the female organs becomes strikingly great; for there is then formed a blind cavity or canal, which has in many cases been mistaken for an imperfect vagina.* To add to the puzzling character of such a case, it not unfrequently happens that, along with the malformations now described, the testicles have never descended through the inguinal rings.

In all cases of this second variety of masculine hermaphroditism, the evacuation of the urine is more or less difficult. Very generally the subjects of this unfortunate defect pass their urine '*à la manière des femmes.*'

It is almost unnecessary to say that perfect coition must be impracticable.

* There was recently, in the wards of the Hôtel Dieu at Paris, an example of this variety of masculine hermaphroditism in a man 36 years of age. The scrotum, deeply divided by a central fissure, formed two lateral protuberances which contained the testicles. This fissure terminated in, or led into, a blind canal, which admitted the finger to the depth of about two inches. A probe could be passed to a considerably greater depth. To the upper part of the cleft scrotum was attached a miniature and imperfectly formed penis. The urethra was open along all its lower surface, and the urine therefore dribbled away from between the two partitions of the scrotum.

This person it appears had had connexion with men. He had attempted, but in vain, to have intercourse with women.

From the description, given above, of the more aggravated form of masculine hermaphroditism, the reader will be prepared to expect that it is sometimes exceedingly difficult for a medical man (far less for a nurse or other unprofessional person) to determine the sex of a malformed infant at the time of birth. Numerous are the cases on record where even experienced anatomists have been obliged to confess their ignorance. Persons so afflicted have been not only baptized and educated, but have even subsequently been married, as females. Among other instances of this sort, there is one detailed at great length in the *Memoirs of the Societ  Med. d'Emulation* for the year 1795, and another in the *Bulletin de la Societ  de Medicine* for 1815. More frequently, however, there are certain changes observable after the age of puberty, which cause suspicions as to the real sex of the individual; and our author adduces a multitude of cases, where the mistake was discovered at this period of life, and the party was re-baptized, and installed among the members of the ruder sex!

If from the study of Masculine we pass on to that of *Feminine Hermaphroditism*, we shall not fail to be struck with the very remarkable analogy, which may be shewn to exist between the irregularities of the male, and those of the female organs of generation, and to perceive at once the tendency, as it were, of the one sex to assume the characters of the other.

As the most frequent and distinguishing character of Masculine Hermaphroditism is the atrophied state of the penis, so the most remarkable anomaly of Feminine Hermaphroditism is the hypertrophied state of the clitoris. These two organs, it will be found, are strictly analogous to each other in structure, mode of development, and in the irregularities of their formation. Both consist of two spongy cavernous bodies, the corpora cavernosa, which, arising from the crus of the os pubis, were during early f etal life distinct and separate from each other, and which afterwards coalesced in the mesial line, with a septum between their two lateral halves. The development of the urethra takes place independently of that of the corpora cavernosa; and in both sexes this canal occupies nearly the same relative position, although the great difference in the magnitude of the penis and of the clitoris in adult age is apt to withdraw the attention of the anatomist from this circumstance. When however the clitoris attains an unusual size, and especially when along with this anomaly the occasional, although certainly very rare, occurrence of its exhibiting a more or less completely developed, urethral canal on its lower surface is present,* the resemblance between the generative organs

* Some writers have questioned the accuracy of the statement that the clitoris is ever perforated with a genuine canal. But all scepticism on this subject must be removed, after the perusal of the case of Marie Lefort, an account of which was published by M. Beclard in the *Bulletin de la Facult * for 1815. The following is a brief abstract of the leading particulars. She was sixteen years of age when examined by M. Beclard. She is still alive, and M. St. Hilaire, a year or two ago, confirmed the exact accuracy of Beclard's description by a minute inspection of the woman.

"The prominence of the pubis is elongated as in the male subject, and covered with a quantity of hair. Immediately below the pubic protuberance is a body, about an inch and a half long, capable of enlargement during the state of erection. This body terminates in a glans, which however is imperforate, but is

of the two sexes is too obvious to require any illustration. The resemblance becomes still greater if the vagina is at the same time imperfectly formed, being either exceedingly contracted, or perhaps quite imperforate. Such a state of parts approximates, it will be observed, very closely to the condition of the male organs in the second form of Masculine Hermaphroditism, described above. It may be supposed that, whenever the testicles have descended, we should be always able to determine the sex of a child, however malformed, it may be; and most certainly we should, if in every case this circumstance could be ascertained beyond doubt. But, not to mention the frequently atrophied condition of these organs when the other parts of the generative apparatus are anomalous, we must remember that the ovaries occasionally descend through the inguinal apertures, and simulate most closely the form and general appearance of the testicles in the male.

In extreme cases therefore of Feminine Hermaphroditism,—when the clitoris is enormously developed, when it is cleft on its lower surface with an imperfect urethra from which the urine flows, when the vagina is unusually small and perhaps imperforate, when the labia are partially agglutinated, and when the ovaries have protruded at the inguinal apertures—the difficulty of determining the sex must be most puzzling indeed.

This difficulty becomes sometimes greater, as the person approaches the term of puberty; for the whole system is then apt to take on a sub-masculine character: the body and limbs are more muscular and hairy than in a female, the voice is more rough, the mammæ are less developed, and often too the mental and moral features exhibit none of the soft and graceful delicacy of the female mind.

We have alluded above to the mistakes which have been occasionally made as to the proper sex of a child at a period of birth, and during the years of

invested with a moveable prepuce. On its lower surface it is grooved or hollowed out, so as to form a canal (*il est inferieurement creusé d'un canal déprimé*); and this canal is perforated at five different points along the median line. Below and behind this body there is a very imperfectly-formed vulva, and at the upper part of this vulva, immediately at the root of the clitoris, there is a rounded aperture, which admits the introduction of a sound.

The urine escapes partly by this opening and partly by the five little orifices, with which the urethra on the inferior surface of the clitoris is perforated (*par les trous dont l'uretre est criblé dans sa portion clitoridienne*). The catamenia escape by the same opening from which the urine flows, and perhaps also by the five orifices which we have mentioned:—at least they have been observed to be moistened with the sanguineous discharge.

The case therefore of Marie Lafort may be justly considered as affording an indubitable instance of the urethra, incomplete indeed, being developed along the inferior surface of the clitoris, as it normally exists in the male penis.

This rare malformation is an admirable illustration of the 'Unity of Composition' of the analogous or corresponding structures of the male and of the female generative apparatus. 'If then,' says M. St. Hilaire, 'the penis and clitoris, organs essentially analogous to each other, are formed of the same anatomical elements, if in short they are but different degrees of evolution of the same organic tissues, it is not more wonderful that the clitoris should occasionally be developed up to the complex condition of the penis, than that the latter should descend to the rudimentary state of the clitoris.'

childhood and early youth; and we have mentioned that male children have been baptized and educated as girls, and that it was not until after puberty, when the growth of the sexual passions and other circumstances took place, that the awkward mistake has been discovered. Instances are also on record where female children have been christened as boys, and have been educated as such.

Our author has described several cases of this description, and to his work we therefore refer those readers who wish to know the particulars. We shall only allude to the case of a young person, who, after having been educated as a boy and afterwards admitted as a canon in a monastery, subsequently became pregnant and gave birth to a living child!! It was upon this person that the line—

Mas mulier, monachus, mundi mirabile monstrum,
was written.

From the preceding remarks on masculine and on feminine hermaphrodisism, we hope that our readers may be enabled to form an accurate notion respecting these two varieties of sexual malformation. We have shewn that the malformation may be so great, that it is almost quite impossible in some cases to determine the sex of the unfortunate individual even after puberty;* and, notwithstanding, this extreme deviation, that all the anomalies of structure may be accounted for on the principle of the strict and most intimate resemblance in development of the external organs of generation, or organs of *copulation*, in the male and in the female. We have not yet alluded to the condition of the internal organs, or those of *reproduction*; and the reason of our silence has been, that these parts are not necessarily malformed in the two varieties of simple Hermaphrodisism, of which we have hitherto spoken. The irregularity of formation in them is limited to the external organs; and hence the dissection of any case of genuine masculine or feminine Hermaphrodisism will at once determine the order or variety to which it belongs.

* On perusing lately the interesting literary correspondence of Baron Grimm, we met with the following droll case. Anne Grandjean, born at Grenoble, was baptized as a girl, and educated as such until she was fourteen years of age. From the change in her feelings and conduct at that time, doubts as to her proper sex arose. The Confessor of the family was consulted, and he decided that the child should be dressed and treated as a boy. Some years afterwards he made love to a young lady, but for some reason or another, the acquaintance was broken off. A second attachment however proved more successful, and he was married.

The couple lived together for two or three years at Lyons. It so happened that his first flame came to reside there, and became acquainted with Madame Grandjean. The two ladies appear to have conversed about family topics; for the issue of all was, that the wife declared that her husband was not "un veritable homme." She applied to the church for redress; and at length poor M. Grandjean was condemned to be whipped and expelled from Lyons, "en qualité de profanateur du sacrement de mariage." He appealed however to the Parliament of Paris, which revoked the sentence of the tribunal at Lyons, declared his marriage null, and at the same time ordained that he should resume the name and garb of a woman!! Well might Baron Grimm remark, "que cette affaire n'aurait jamais du faire un sujet de proces public dans un siecle éclairé"

If, along with malformation of the external organs, there is found an anomalous state of any of the internal, the case is still more complicated than any we have yet considered, and it is to be referred to one of the other two varieties of simple hermaphroditism—the *neutral* or the *mixed*.

The essential and characteristic feature of Neutral hermaphroditism is, that all or at least most of the organs of generation, internal as well as external, are strictly neither male nor female, but are intermediate between those of the two sexes, and partaking, as it were, of the attributes of both.

Hitherto no very authentic example of this variety of hermaphroditism has been recorded to have been observed in the human subject; and, even in those cases which have occurred in some of the lower animals, the confusion of development did not equally affect all the organs alike; the external, it would seem, appertaining in most of them decidedly to the female sex. We shall briefly notice three of the most remarkable cases of Neutral hermaphroditism. They are recorded by Haller, Hunter, and Sir E. Home.

The case observed by Sir E. Home occurred in a dog. The external organs consisted of a vulva tolerably well formed, and of a large clitoris, or a small imperforated penis, beneath which there was an aperture leading to the urethra. Such a state of parts appeared to indicate most essentially the female sex; and of such was the animal considered, until the internal apparatus was examined. This was found to consist of only an elongated ligamentous substance—regarded by Home as an imperforated vagina—and of two slender impervious cords terminating in two bodies, whose structure and general appearance was so equivocal, that it was quite impossible to decide whether they were imperfect ovaries or testicles. They occupied indeed the situation of the ovaries; but still their characters were such as to lead Sir Everard to consider them rather as testicles. On the whole however, we must regard the preceding case as one rather of extremely irregular and defective development of the female organs, than of strictly Neutral hermaphroditism.

In the animal of the goat tribe observed by Haller, there was either a large clitoris, or small penis, according to the view taken of the case. Externally it was perhaps more like the former organ; but when attentively examined, Haller stated that it resembled rather the penis of the male: its two corpora cavernosa being very distinct and furnished with very obvious muscles. Beneath this organ, there was a fissure similar to a very narrow vulva; a probe might be introduced along it either into the bladder, or into a vagina-sort of canal, placed between the rectum and bladder, and communicating with the urethra by a large aperture. This canal was found on dissection to bifurcate into two tubes. These two tubes, resembling rather the Fallopian tubes or even the cornua of the uterus than proper vasa deferentia, terminated in bodies which, although occupying the usual site of the ovaries, looked like testicles. Around the extremity of the urethra, at its junction with the bladder, there were observed traces of rudimentary vesiculæ seminales.

The neutral hermaphrodite described by Hunter was very similar, in most respects to the preceding one. It occurred in an ox. The external parts belonged rather to the type of the female animal. The vagina was very imperfect; the uterus was impervious; and the two ovaries had much more the appearance of testicles, and in truth Hunter regarded them as such.

There were also rudiments of vesiculæ seminales around the neck of the bladder in this animal.

The last form or variety of simple hermaphroditism is what has been denominated *mixed hermaphroditism*, from the circumstance of some of the organs of generation being to all appearance male, while others appear equally to be truly female.

There is thus, as it were, an admixture of the two sexes, occurring in different parts of the same apparatus. Authors have described two groupes of mixed hermaphroditism. In *one*, the external organs being more or less irregular, some of the internal organs are masculine, while others are of a feminine character. Thus there may be testicles coexistent with a uterus, or, on the other hand, there may be ovaries coexistent with the prostate gland and vesiculæ seminales.* In the *second* groupe, one lateral half of the apparatus appears to appertain to the male sex, while the other lateral half appears to belong to the female sex.

We shall briefly allude to a few cases, which have been supposed to exemplify these rare anomalies.

As an instance of the *first* groupe of mixed hermaphroditism, Akerman published at Jena in 1805 the following account of the state of the generative organs in a new-born child.

Externally there was a large clitoris, or diminutive imperforated penis, grooved on its under surface; beneath this body, was a vulva, in the labia of which were discovered testicles. This vulva, or, if you choose, this scrotal fissure led by one passage to the urinary bladder, and by another to a thin globular uterus, from which there arose two narrow tubes, analogous to vasa deferentia, and terminating in the two testicles. The structure of the testicle was normal, and, as already observed, they had passed through the inguinal apertures.

The celebrated anatomist, Mayer, has recorded a somewhat similar case, which he detected in a young fœtus. There was a bicorned uterus, and a vagina, associated with testicles, vasa deferentia, and rudiments of vesiculæ seminales. The urinary bladder was affected with extro-version, and received at its fundus the orifice of the vagina.

M. St. Hilaire has described several examples of this mixed hermaphroditism in the lower animals. We must refer those who wish for particulars to his work.

The *second* groupe of mixed hermaphroditism consists, as we have explained above, in the right lateral half of the generative apparatus assuming the

* The trinary division of the generative organs suggested by our author, and alluded to by us in a former part of this article, is used with much advantage in describing this variety of mixed hermaphroditism. It will be remembered that he divides these organs into the external, the middle, and the deep or internal: the middle consisting of the prostate gland and vesiculæ seminales in the male, and of the uterus in the female; and the internal organs consisting of the testicle and its appendages in the male, and of the ovaries and its appendages in the female. Applying therefore this language to the description of the first groupe of mixed hermaphroditism, we should say that the middle organs may be masculine, while the internal organs are feminine, or vice versa; the external organs being, in both sets of cases, generally more or less irregular at the same time.

masculine characters, and the left assuming the feminine; or vice versa. This is a very rare form of monstrosity in the higher animals; but it is infinitely more common in some of the lower tribes, especially in Fishes and in the Articulata. This fact, the result of undoubted observation, is strictly in accordance with, and affords, in our author's opinion, a most beautiful illustration of the agency of Centripetal developement. "If," say he, "it is true that lateral hermaphroditism may be explained on the principle, that the two lateral halves of the sexual apparatus are evolved and formed distinct from and independent of each other, it is evident that the production of this anomaly must be more apt to occur, and therefore be more frequent, just in proportion as the development of these halves is more tardy, and their coalescence in the mesial plane is more slow and more incomplete. Now in man, and in those animals which approach him in organization, each lateral demi-apparatus speedily unite together on the mesial line and their fusion or coalescence is subsequently so complete, that no trace of their former duality is found. In the inferior mammiferous animals, the mesial coalescence is less complete; for in them we find a double uterus, and sometimes also a double vagina."

If we descend still lower in the scale of organization, we find that the right and left lateral halves remain disunited throughout, and discharge their contents separately at the anus, or into a common cloaca. Hence we are furnished with a very simple and very satisfactory explanation of the frequency of lateral hermaphroditism in the lower tribes of animals; and of its extreme rarity in man and the higher animals. Whenever it does take place in these, it is attributable to an arrest of the progressive development of the sexual apparatus.

The following example of this rare variety of Hermaphroditism is narrated by Marcet in the Memoirs of the Academy of Dijon, and has been inserted in most of the recent works on the malformations of the generative organs. The person, who had always passed as a male, died at the age of 17.

There was a large clitoris—or diminutive imperforate penis—provided with a distinct glans and prepuce, and consisting (as ascertained by dissection), of two well-developed corpora cavernosa. Immediately beneath this organ, there was a considerable fissure formed by two folds of the skin, which represented tolerably well the labia of the vulva, and within which were nymphæ-like bodies. These were separated superiorly by the meatus urinaris, inferiorly by a narrow orifice, which seemed to be the opening of a vagina. Within the left labium of the vulva—or lip of the scrotal division—was felt most distinctly a testicle. There was not one in the right labium; but when the abdomen was firmly pressed, an oval substance protruded through the inguinal ring, and this receded, when the pressure was removed.

On dissection, the substance within the left labium was found to be "un vrai testicule pourvu de ses vaisseaux, et d'un canal deferent:" the vas deferens passed through its corresponding inguinal ring, and proceeded on to a vesicula seminalis on the left side of the neck of the bladder. From this description it appears that the left side of the generative apparatus was most strictly and truly *masculine*. Not so however with the right *side*;—for, with the exception of some imperfect rudiments of a vesicula seminalis and of a *vas feminine* it was essentially *feminine* in its arrangement. The small oval substance which had protruded at the right inguinal ring, and which had

been supposed during life to be a testicle, was found to be a diminutive uterus, contained in a cyst. It was an inch and half long, of a firm texture, and, when cut across, proved to contain a small ovoid cavity. From its upper part there arose a genuine fallopian tube, which proceeded on to an ovary, normal as to colour, form and volume, and "dont l'existence est par consequent aussi authentique que celle du testicule gauche."

A case, somewhat similar to the preceding one, was discovered in the body of a subject examined at the Hôtel Dieu in 1754. The canal of the urethra, which terminated externally an inch from the extremity of the penis, was very loosely connected to the corpora cavernosa by mere cellular substance. Beneath this body was a fissure, the two sides of which looked like the two halves of a fissured scrotum. In the right one was felt a testicle provided with its spermatic cord. Dissection proved that, besides a distinct vas deferens, there was a vesicula seminalis on the right side of the bladder, and that this vesicula communicated not only with the urethra, but also with a small oval uterus. This uterus was provided with a broad and also with a round ligament, which proceeded on through the left inguinal aperture, and was there lost in the cellular substance of the part.

Our limits prevent us from describing any more cases of lateral Hermaphroditism in man and the higher animals. But of all the Vertebrated animals, there is no class in which this malformation has been so frequently found as in Fishes; and it would seem that, in them, so far from preventing the accomplishment of the sexual functions, this very abnormal arrangement of the two lateral halves of the apparatus enables the animal to act both as a male and a female—or, in other words, to form and to excrete the spermatic fluid, and also the ova at the same time.

Many works on comparative anatomy describe cases, in which there has been found in the abdomen of a variety of fishes a mass of ova on the one side, and a well-developed milt on the other. Indeed the complete separation and independence of the two lateral halves of the generative organs in fishes, and the simplicity of their reproductive functions, seem quite to establish the possibility of one animal impregnating its own ova with its proper seminal fluid—the realization of *genuine Hermaphroditism*.

We have now concluded our imperfect description of the different varieties of simple Hermaphroditism—the "H. sans excès,"—in which there is no abnormal augmentation of the number of the generative organs, but only a malformation or irregularity of their development. We have attempted to shew that they are most conveniently arranged into four groupes—the *masculine*, in which the external organs only of generation are more or less malformed, and approach in appearance and configuration to the female apparatus; the *feminine*, in which the opposite condition of parts exists; the *neutral*, in which all the organs, internal, middle and external, are so malformed, that they cannot be truly said to appertain to either sex, but rather to be confusedly intermediate between the two; and lastly the *mixed*, in which, while the external organs are almost always irregularly and imperfectly formed, the middle organs seem to belong to one sex, and the internal organs to another. Although the limits between these different groupes are not uniformly distinct and well marked, the classification will be found very convenient for arrangement and for scientific description.

The other grand division of Hermaphroditism—in which there is not only a

malformation, but also an actual increase of number, in the organs of generation,—either from some of the male being superadded to a female apparatus, or from some of the female being superadded to a male apparatus—has been denominated Complex Hermaphroditism, or “H. avec exces.”

It has been proved that many of the anomalies of Simple Hermaphroditism are explicable, more or less satisfactorily, on some discovered law of Embryogenic development. Not so with the etiology of Complex Hermaphroditism. In truth, we cannot form any rational conjecture as to the *modus operandi* of the formative power, in giving rise to the production of supernumerary organs.

Leaving therefore this dark and mysterious subject, we shall satisfy ourselves with merely recording two or three of the most memorable and best authenticated examples of the Hermaphroditism “avec exces.”

The following is one, wherein one or two feminine organs were superadded to a male apparatus. It is recorded by Petit in the history of the French Academy of Sciences for the year 1720. The man was 22 years of age, and died from the effects of a wound. The external parts were most distinctly male; the penis was quite well formed, but the scrotum was void of testicles. These glands however were found on dissection to be situated in the loins, and were provided with very obvious epididymes and vasa deferentia. The prostate gland and vesiculæ seminales also were normally formed. They opened as usual into the urethra; but, in addition to their orifices in the prostatic portion of this canal, there was another, which proved to be the opening of a uterus attached to the neck of the urinary bladder. From either side of this uterus there arose a Fallopian tube, which proceeded on to the epididymes, but it had no simbrated extremities. Professor Mayer detected a similar excess of parts in a six-month fœtus: the male organs were complete, and in addition to these there was a uterus, which opened into the urethra near the neck of the bladder. This strange anomaly of formation has been discovered in several of the lower mammiferous animals also.

Such cases are grouped under the title of Masculine Complex Hermaphroditism—the apparatus being decidedly male, with the super-addition of certain female organs. The groupe opposed to this is denominated Feminine Complex Hermaphroditism and is exemplified in the following instances.

Beclard has described such a case, in which the external organs exhibited the appearance of the second degree of simple Masculine Hermaphroditism. There was a diminutive imperforated penis, or an exaggerated clitoris; a vulva, or fissured scrotum, in the lips of which were to be felt the testicles. But on examining the internal organs, every thing indicated a female apparatus. There was a vagina, a uterus with its fallopian tubes, and two ovaries. The vasa deferentia leading from the testicles passed on to the sides of the uterus, and terminated where the round ligaments are usually situated.

The case minutely reported by M. Bouillaud about two years ago, and inserted in the Number of this Journal for July 1833, belongs to the present groupe. The person, aged 62, had lived and been married as a man. On dissection it was found that there was no appearance of scrotum or testicles, the raphé extending from the anus to the imperfect penis or clitoris. This organ was of considerable size, but the canal of the urethra terminated on its inferior surface behind the glands, as in the first degree of hypospadias. All the internal organs were decidedly female; the uterus however termi-

nated in the urethra near to the neck of the bladder. In addition to these parts, there was a well-formed prostate gland in its usual situation.

A third groupe of Complex Hermaphroditism comprehends those very rare cases, in which the male and the female apparatus—more or less complete—exist together in nearly the same degree of development. Schrell, a German anatomist has described a case, in which he found that, in addition to a “veritable penis,” and also to normally-formed testicles provided with vasa deferentia, there was a small vulva with its labia and nymphæ, a vagina leading to a rudimentary uterus, provided with Fallopian tubes and with imperfectly developed ovaries. In 1826, Dr. Harlan of Philadelphia published a minute account of an hermaphrodite ourang-outang, in which the male and the female generative apparatus were, in a nearly equal degree, co-existent. The description is full of interest and will no doubt be studied with attention by all who take an interest in the science of Teratology. Mascagni also, the celebrated anatomist of Italy, has narrated an extraordinary case, which he met with in a bull. This animal had actually been employed for the purposes of breeding. The external organs were well formed, and every thing indicated a normal state of parts; but on dissection there was found a vagina which opened into the urethra between the orifices of the seminal ducts, a uterus; and one ovary, situated near to the left testicle. The author himself closes his narration in the following words: “Si riunivano le parti mashili della generazione in tutto o per tutto perfette, e come maschio dove aver generato: vi si riunivano quelle della femina, ad eccezione delle parti esterne che mancavano in totalità.”

In concluding our brief description of the different kinds of Hermaphroditism, the reader, we trust, cannot fail to have perceived the harmony of most of the phenomena, presented by the examination of these malformations, with the general laws of Organology which we have endeavoured to illustrate in the early pages of this article.

He will now understand that most of those congenital irregularities of structure, which have been called Monstrosities, are easily and rationally explicable, without having recourse to the interposition of evil spirits or witches, as our good forefathers supposed, or even to the agency of any sportive freaks of Nature, as many good naturalists have told us. Aristotle denominated them “errors of creation;” Pliny mentions them in these words, “ludibria sibi, nobis miracula ingeniosa fecit natura;” and even in modern works they are often alluded to as “blind and chance structures,” “inexplicable wonders” “bizarre and sportive productions” and so forth. Such language can never be properly applicable to any of the works of Nature. We may be satisfied that there is no caprice, or waywardness, or inconstancy in the laws which regulate the formation and development of these; and if at any time there appears to be such, we may rest assured that it is, because our ignorance cannot understand, and our feebleness cannot comprehend them. It is certainly a grand reflexion that even the very irregularities or errors, if we may use the term, of Creation afford to the philosophic observer convincing proofs of that harmony of operation which moves all, and of that unity of design which has planned and formed and established all. Does not this thought lead us, almost unconsciously to the conclusion that every part of Nature proclaims the impress of one great Mind, and teach us to know that there is but one mighty Architect, alone and for ever the same.

CYCLOPÆDIÆ AND DICTIONARIES OF MEDICINE AND SURGERY.

- I. A DICTIONARY OF PRACTICAL MEDICINE, &c. BY JAMES COPLAND, M.D. &c. Part IV. 8vo. Pp. 304, London 1837. Price Nine Shillings.
- II. THE AMERICAN CYCLOPÆDIA OF PRACTICAL MEDICINE AND SURGERY, &c. Edited by ISAAC HAYS, M.D., &c. Part X. Philadelphia, September, 1836.
- III. THE CYCLOPÆDIA OF PRACTICAL SURGERY, COMPRISING A SERIES OF ORIGINAL DISSERTATIONS ON OPERATIVE MEDICINE, by an Association of Physicians and Surgeons. Edited by W. B. COSTELLO, M.D., &c. Part I. London, 1837.

AT first sight, it appears evident that a Cyclopædia written by numerous individuals, is preferable to a Dictionary composed by one. It seems indisputable that, when each contributor is chosen for his knowledge of the subject on which he is to write, the result will be a collection of the most valuable essays, and an amount of information will be obtained in this manner, which no one person, however great his skill or learning, could possibly convey.

But the advantages so obviously attending a cyclopædia of general science, are not found to flow in the same degree from that form of publication in the practice of medicine. The most experienced and most eminent in the profession are too much and too profitably occupied, to enable them to devote their time to the composition of articles, for which no commensurate remuneration can be given. Unfortunately too, there are so many subjects on which a wide difference of sentiment exists, that when many surgeons or physicians write, almost as many contradictory opinions will be uttered; and the reader of a cyclopædia who finds one doctrine laid down in one part, may stumble on the opposite dogma in another. An able physician in this metropolis has said with much naïveté, perhaps with some truth, that the Cyclopædia of Practical Medicine, is a large book in which every man has ridden his own hobby.

It is no doubt owing to these, and, possibly, to other circumstances, that, practically, medical cyclopædias are not found to excel, in the degree we might anticipate, those dictionaries which have been the work of but one individual. If the latter want variety, they are characterised by unity of design and of construction, more useful perhaps to the reader and the student. The Dictionary of Dr. Copland has appeared since the Cyclopædia of Medicine was published. It had, therefore, to sustain a comparison with its rival, and to struggle with the disadvantage of being late in the market. Yet its success has been remarkable, and it may be doubted whether it will not ultimately beat the Cyclopædia.

Of course, we have no intention of presenting an analysis of any of the works which are lying before us. Their elaborate and elementary character preclude the possibility of that. We shall merely give a bird's-eye view of their contents, and select some articles for a special notice.

1. The present, the fourth part of the Dictionary of Practical Medicine, commences with the conclusion of the subject of Remittent Fever, and terminates with the treatment of Hypertrophy of the Heart. It embraces the consideration of the following important maladies—of Hectic and Continued Fevers—of Fungoid Diseases—of Gangrene—Gout—Hæmorrhage—and of some of the Diseases of the Heart.

We must admit that we have not been enabled to read 304 pages, printed closely in double columns, nor can we pretend to select a thousandth part of what is really valuable. But the wide circulation of the Dictionary both excuses our silence, and forbids the attempt to extract much from its pages; while the ability and care with which its articles have been composed, display an uniformity of excellence which renders selection as unnecessary as it is difficult.

We may take, almost at random, the subject of deafness, and exhibit the manner in which it is treated by our able friend. We do so, because it offers a striking proof of his diligence and judgment, and because our readers may be nothing the worse for seeing, in a connected series, the many causes and the appropriate treatment of that troublesome disorder.

Dr. Copland arranges the causes of deafness under four heads:—1, deafness from affections of the external ear—2, deafness from disease of the Eustachian tube and cavity of the tympanum—3, deafness from affections of the auditory nerves—4, deafness and dumbness.

Deafness from Affections of the External Ear.—A. Diseases of the auricle, occasionally swelling, as erysipelatos inflammation, or scirrhus may occasion deafness.

B. It is more likely to result from diseases of the auditory passage and membrane of the tympanum. All the affections of these parts are inflammatory, or the consequences of inflammation, and are thus arranged.

Erythematic Inflammation of the Auditory Passage.—This generally causes accumulations of brownish hard wax, obstructing more or less the functions of the organ. It sometimes occurs in persons of a cachectic habit of body, or in conjunction with chronic affections of the skin, and in connexion with disorder of the digestive and excreting organs. It is often excited by substances that have passed into the ear, or by neglect of cleanliness, which, however, is not so frequent a cause as is generally supposed: the accumulation of hardened or morbid wax, with increased sensibility, pain, or soreness in the meatus, being the chief indications of the affection. In its slighter states, itching or formication in the passage is only felt.

The treatment of this affection consists in attention to the secretions, and in syringing the meatus with tepid water.

Inflammation of the Follicles of the Auditory Passage.—"From this inflammation, and from that of the *membrana tympani*, various excrescences or morbid growths in the meatus ultimately proceed. On inspection redness and partial swelling of the walls of the passage are first observed; and, if the affection continues long, or becomes chronic, excrescences, or polypi, of a soft, spongy, or vesicular appearance, are gradually formed. These are red, sensitive, roundish, pedunculated, and readily bled when irritated. In some cases, they have a broad hard base, are insensible, and not disposed to bleed. These obstruct more or less, the meatus, and impede the functions of the organ. Hardened mucus and wax may also accumulate in the passage, as a consequence of the

chronic states of this affection, and of the obstruction caused by these excrescences."

The *treatment* consists in attention to the health—syringing the meatus—extirpation of the fungous growth; and, should the membrana tympani be thickened, or ulcerated, or covered with inspissated secretions, in employing the means for otorrhœa, viz. blisters, setons, or issues as circumstances may require.

Phlegmonous Inflammation of the Passage.—This may be readily distinguished, and its treatment must be obvious.

Inflammation of the Periosteum of the Passage.—"This is most common in children of a scrofulous diathesis, and generally occasions caries of the bony structure, which is readily detected with the probe. If exfoliation of the diseased bone occur, and the ulcerated part begins to heal, narrowing or obliteration of the meatus may take place. In these cases, the deafness often depends as much upon congestion of the adjoining parts, as upon swelling and disease of the passage.—Dr. KRAMER advises, in the *treatment*, that, when the parts show a tendency to close, they should be opened up by art, and maintained open by touching them with lunar caustic, throughout their extent. Hearing, however, usually continues very dull, owing to the natural form of the meatus having been lost, and to the membrane of the drum having become thickened."

The *Diseases of the Membrane of the Tympanum* are, in some instances, a dubious, and in others an indubitable cause of deafness. It is not, for example, certain that relaxation of that membrane, nor undue tension of it, nor rupture of it, nor rupture of the tendon of the tensor tympani, frequently give rise to deafness. When the membrane is ruptured indeed, it is usually rather from an ulcerative process.

Inflammation, then, of the membrane of the tympanum, however it has been induced, may end in ulceration or in other lesions.

"Acute inflammation of this part is not so common as the sub-acute and chronic states; and either, when neglected, gives rise to opacity, thickening, perforation, purulent discharge, fungous or polypous excrescences, &c.; but the chronic states most frequently induce these lesions. In acute inflammation, the membrane is seen, on careful examination, more or less red, rough, swollen, and opaque. It often seems as if covered with small projecting glands or follicles. Sometimes bundles of vessels are seen in it, and the point of insertion of the handle of the malleus cannot be distinguished, Dr. KRAMER states, that inflammation of this part are distinguished from internal inflammations of the ear, not only by the greater mildness of the former, but especially by the changes of the membrane presented by them from the commencement; whereas, in the latter, such changes cannot be detected early in the disease, however violent the symptoms and attendant fever may be; and occur only in the further course of the malady, when the membrane is about to burst from the pressure of accumulated matter, or has become involved in the inflammatory process. The different grades of this disease have been imputed to *nervous otalgia*, or confounded with it. Dr. KRAMER, however, denies the existence of such an affection. In this he is evidently mistaken; although it must be admitted, that both this, and other inflammatory diseases of the ear, are often improperly viewed as nervous merely. The hardened secretion in the meatus, to which the more chronic states of inflammation of the membrane have been imputed, is more commonly the result of inflammatory action, than its cause. The disease, in both its primary and its consecutive states, generally impairs hearing more or less." 158.

This inflammation is to be met by such appropriate treatment as we need not stop to consider. In addition, various injections have been recommended—a solution of the acetate of lead—of sulphate of zinc—of nitrate of silver, and so forth. The surgeon should be cautious. We have seen some mischief, and heard of more, from employing injections of too stimulating a description. A few drops of the pyroligneous acid to an ounce of water, as well as the solution of the acetate of lead will effectually remove the offensive odour of the discharge.

Perforation of the membrane, when to any extent, must materially impair the hearing. But there are certain states of the ear in which artificial perforation is of service. Itard, observes Dr. Copland, contends, that the operation is admissible only when there is invincible obstruction in the tube; Saissy advises it only in thickening and hardening of the membrane; and Delau recommends it also in this case, as well as in obstruction or obliteration of the Eustachian tube, and in obstruction of the cavity of the tympanum. Dr. Kramer has recourse to the operation only when the *membrana tympani* is much thickened, quite insensible to the probe, hard as cartilage, and if the hearing is very impaired; but, even in this case, it should be performed only when both ears are affected with considerable deafness, and when the ear to be operated upon does not suffer from any other disease, by which the result might be rendered abortive. Slight obstruction of the Eustachian tube is undoubtedly to be treated, not by perforating the membrane of the tympanum, but by the introduction of instruments into the tube itself.

2. *Deafness from Disease of the Eustachian Tube and Cavity of the Tympanum.* A. The tube may be obstructed, 1st, by the pressure of tumors in its vicinity;—2d, by inflammation causing tumefaction of the mucous membrane, effusion, &c.;—and, 3d, by the more remote consequences of inflammation, namely, constriction or obliteration of a portion, or of the whole, of the canal. To ascertain any of these conditions accurately, it is necessary to explore the tube. This may be done by the introduction of bougies or catheters into it, and by injections of tepid water or of air into the tympanum. Dr. Kramer describes a mode of introducing compressed air into the tympanum, and points out its application as a means of diagnosis. We subjoin the extract taken by our author from Dr. Kramer's observations.

“ ‘ After the catheter has been introduced into the tube, and fixed by means of a frontlet, the patient is placed close to a table, on which he leans his elbow, holding with the hand of that side the pipe of the air-press filled with compressed air. The operator then introduces the metal beak of the pipe into the funnel-shaped dilatation of the catheter, applies his ear close to that which is being examined, opens the cock of the machine and listens to the sound, caused by the air rushing into the cavity of the drum. When the tube and cavity are free, the air strikes with an audible shock against the membrane of the tympanum. When the shock is over, or is slight, a blowing or rustling in the ear of the patient is heard, caused by the streaming of the air.’ All variations from this sound are morbid, and furnish more or less distinct indications of diseased changes in the organ. If the air-douche does not penetrate to the *membrana tympani*, Dr. KRAMER advises catgut bougies to be used for opening the passage in the tube.” 158.

It must be owned that this is rather nice diagnosis, and that it beats auscultation hollow. What an opportunity it would offer to a Quack aurist, for drumming his sagacity and penetration in his patient's ears. The only objection to it as an engine of quackery is, that probably few Charlatans *could* introduce an instrument into the Eustachian tube.

Inflammation of the Mucous Membrane of the Eustachian Tube may be catarrhal, the effect of causes usually occasioning catarrhal affections of the throat. The mucous accumulating produces deafness. Of the treatment we need say nothing, save that injections of warm water or of air have been advised.

Deafness from Inflammation of the Mucous Membrane of the Tube may proceed from disease of the throat, or of the proper membrane of the drum; and be complicated with either, or with both these diseases. In the case of its connection with lesion in the cavity of the tympanum, it is either associated with, or has followed, acute *otitis* or *otorrhæa*. But when the inflammation is confined to the guttural part of the canal, deafness is neither great, nor attended by pain in the interior of the ear. The patient hears well at times, but only momentarily. He hears his own voice even worse than that of others: and occasionally has a crackling, gurgling, or detonating sensation in the throat leading to the ear. The diagnosis is still more to be depended upon, if pain or inflammation exists in the throat or fauces, and if the former be increased on gaping or mastication. The chronic states of the disease of the tube are generally connected with syphilis, or with the scrophulous diathesis."

The treatment will depend, in a great measure, on the nature of the affection of the throat. When there is acute inflammation, of course antiphlogistic measures are requisite.

Diminution, Stricture, or even complete Obliteration of the tube may result from the thickening or ulceration occasioned by the inflammation. This may be the consequence of the cicatrization of an ulcer situated near the orifice of the tube. The diagnosis is important, and is chiefly to be gathered from an inquiry into the history of the case. Exploration of the tube is also an item in the method of investigation. If the obliteration of the canal is complete, the cavity of the drum is always involved in the disease. Perforation of the membrana tympani is said, on this account, to be useless, and these cases are incurable.

Tumors pressing on the Eustachian Tube will give rise to deafness. Enlarged tonsils, enlarged parotids, or polypous growths may do so. The diagnosis made, appropriate treatment must be had recourse to.

Inflammation of the Cavity of the Tympanum.—The inflammation may effect only the mucous membrane lining this cavity; or it may extend to the submucous cellular tissue, and even to the periosteum. It is generally either acute or chronic; and in either case is a severe, and often dangerous disease. But its consideration belongs rather to otitis than to deafness, and we pass it by.

Deafness from Extravasation of Blood in the Cavity of the Drum, occasionally follows violent attacks of sneezing, or constriction of the neck. Inflammation may ensue. Sir A. Cooper has advised puncture of the membrana tympani. Probably the blood would drain off by the Eustachian tube, at least in part.

3. *Deafness from Affections of the Auditory Nerves.* There are no positive means of determining that deafness depends on affections of the nerves. It can only be inferred to do so, when no appreciable alteration of the auditory apparatus exists.

Dr. Kramer divides nervous deafness into two forms—"the one attended by excitement or erethism—the other by torpor. Noise in the ears is always present in the former, but never in the latter. This symptom is often, however, attendant on very different diseases of the ear, but in a very indeterminate and inconstant manner. To determine, therefore, whether deafness with noises in the ear proceeds from disease in the organ, or from nervous affection merely, minute investigation and the means of diagnosis already mentioned must be had recourse to. But these are also requisite in the torpid form of nervous deafness."

It may reasonably be doubted whether this distinction is pathologically just, and whether the diagnosis will commonly be accurate. M. Itard's views on the varieties of nervous deafness are as follows: 1. Deafness may proceed from compression of the acoustic nerve; 2, or from palsy of the nerve, the result either of a severe shock or commotion, of convulsions, of apoplexy, of fever, of sympathy with some other organ, or of organic changes in the nerve itself; 3, or deafness may result from plethora.

A. *Deafness dependant on Compression of the Acoustic Nerve.*—There are, of course, many possible causes of compression of the nerve. DUVERNEY and SANDIFORT found these nerves pressed upon by tumors; and SEVERINUS observed them surrounded by serum and effused blood. ITARD found, in a man who had lost the hearing in the left ear, small tumors lying on the corresponding side of the cerebellum, and nearly two ounces of a thick fluid in the ventricle of the same side. In cases adduced by LIEUTAUD, in several detailed by LALLEMAND, and in some seen by myself, an abscess had formed in the part of the brain adjoining the ear, and by pressure or consequent disorganization, had destroyed the functions of the auditory nerve.

The symptoms are such as indicate cerebral affection; severe and nearly constant headach, vertigo, noise in the ears, impaired sight, and weakness of the mental faculties, especially the memory. The diagnosis is too often dubious. The progress of the case is very slow.

B. *Deafness from Palsy of the Acoustic Nerves.*—The first species of palsy is that resulting from a severe shock to the nerves—as a clap of thunder, the explosion of artillery, and so on. When deafness has been occasioned by loud noises, hearing often returns spontaneously in a few days or weeks. If it continues for some months, it is rarely removed by treatment.

The second species is palsy from convulsions. This is most frequently observed in children under four or five years of age. Many of the cases of deaf-dumbness originate in the convulsions occurring during the first dentition. But the deafness may not be the result of the convulsions; both the one and the other more probably being produced by some lesion at the origin of the acoustic nerves, or by effusion into the fourth ventricle, or by some change at the base of the brain, or about the medulla oblongata. When

the loss of hearing is complicated with palsy of one side, or of one limb, the nature of the affection may be inferred; but when this is not the case, and when hearing in both ears is lost, the exact nature or seat of lesion can seldom be determined or even surmised. M. Itard considers deafness occurring in this manner as quite incurable.

Deafness from apoplexy is frequent, and may affect both ears. When on a hemiplegic side, it is incurable. When the patient is young, and when no palsy succeeds the apoplexy, the deafness may possibly be benefited by nature or by art. The efforts of the latter may be briefly summed up—attention to the general condition of the patient, the application of blisters or of moxas behind the ears, and the vapour of æther or of camphor.

Deafness is sometimes symptomatic of, or associated with, disorders of the digestive organs.—In these cases, the affection is generally slight; but it is sometimes very considerable and difficult of removal. Impaired and disordered digestion, deranged biliary secretion and excretion, a foul or loaded tongue, tumid abdomen, a morbid state of the evacuations, and an unhealthy aspect of the countenance and of the general surface, generally characterise this form of deafness. Appropriate treatment of the dyspeptic symptoms is required, and blisters or moxas behind the ears should be combined with it. The disorder, says Dr. Copland, of the digestive organs associated with deafness is sometimes also connected with *difficult dentition*, as justly remarked by Nuck, Hesse, and Itard; and occasionally the impaired digestive, assimilating and excreting functions, of which deafness is symptomatic, gives also rise to the production of *intestinal worms*. In these circumstances, the indications of cure are manifest.

Idiopathic Paralysis of the Acoustic Nerves has been defined by Itard to be a want of excitability in them, a loss of their sensibility independently of any of the circumstances already mentioned. M. Itard believes, however, that it may be congenital, or supervene at any period of life; but that it most frequently occurs after forty. It is often accompanied with headach, noise in the ears, and mental inaction. Numbness, or want of sensation in the external ear, is sometimes present. M. Itard has seen the organic sensibility of this part entirely lost in two instances. In old persons, this symptom is often observed in slighter degrees, and is attended by dryness of the meatus. This variety of deafness is generally ameliorated by warm or mild weather, and by loud noises; but, as soon as these cease, the affection returns to its former state. It is *caused*, as well as aggravated, by mental exertion and fatigue; by masturbation, venereal excesses, and other depressants; by exposure to cold, currents of air, and humidity; and by the depressing passions. Its accession is imperceptible, and its progress very slow. Sometimes it continues long stationary; but it is little influenced by treatment. If the patient is not far advanced in life, perhaps counter-irritants, the introduction of stimulating vapors into the Eustachian tube, tonics, or electricity may be productive of some service.

Deafness may depend on Organic Changes in the Acoustic Nerves.—Sylvius found them atrophied—Akerman indurated—and Morgagni says that in one case they were wanting.

c. *Deafness from Plethora.*—Congestion of the vessels of the head or of the ear is not unfrequently productive of deafness. The patient complains

of headache, vertigo, throbbing noises in the ear or head, and so forth, and the general or local plethora is attended or has been preceded by those circumstances which usually precede or attend the plethoric state. The treatment must be in a great measure regulated by the phenomena of the individual case, and we need not enter on the consideration of its details.

4. *Deafness and Dumbness.*—These usually result from acute or chronic *otitis* in early infancy, occasioning organic changes, particularly in the labyrinth or nerves. When the deafness is congenital, such lesions, or imperfect development may be inferred to have taken place in the fœtus. Deafness and dumbness are never remedied, if the former is congenital. If it has arisen from disease of the ear in infancy, our object must be to discover its cause, and its remediability must depend on the nature of the latter.

The concluding section of this instructive article on deafness, is devoted to the examination of the *remedies recommended for impaired or lost hearing.*

Dr. Copland informs us that his aim, an excellent one, is to rescue the affections of the ear from the quacks who have monopolised them to the exclusion of the regular practitioner. There can be no question that the mere aurists are not calculated, either by their candour or their knowledge, to advance even their special art; and the example of what has been effected for diseases of the eyes, since well-educated surgeons made them a part of their study and practice, may encourage us in a similar attempt on the diseases of the ear. Until the profession takes these to itself, we shall have nothing but a repetition of the same pretension, the same empiricism, the same ill-success, and the same ignorance, which have long distinguished the practice of what is termed "acoustic surgery," because, we suppose, it is surgery of no other sort.

It is absurd to suppose that persons who confine themselves to the study of the diseases of one or two organs, can ever be really well acquainted with them. One organ is so linked with another in the economy, that disease will continually extend from it to other parts, or from other parts to it. To distinguish the case a knowledge of pathology is requisite, and how can a mere oculist or aurist acquire a knowledge of pathology? But we, who are writing for medical men, need not argue a question which their common sense must instantly determine. We have only to rouse them not to recognize the truth of what we urge, but to act upon it. We do hope that the diseases of the ear will receive more general attention than they have done, and it is because we hope so, that we have dwelt upon them now. But to return to the consideration of the remedies that have been proposed for deafness.

A. *Constitutional Means.*—Vascular depletions, when congestion or inflammatory action obtains—purgatives—emetics, useless in nervous deafness, injurious when there is cerebral congestion—tonics and stimulants, when indicated—alteratives and deobstruents—even salivation when there is syphilis—squills when the Eustachian tube is obstructed by mucus—dulcamara, or sulphur, when there are cutaneous eruptions—are each and all remedies which have been used, and may be used again, according to the circumstances of the case.

B. *Local Remedies.*—Electricity galvanism, and mineral magnetism are

said by quacks, and thought by fools, to have done wonders, but are not believed by those who know pathology, to be much better than convenient engines of imposture.

c. Moxas, issues, setons, blisters, and the ointment of tartar emetic, if appropriately used, are valuable local remedies.

d. Masticatories were in vogue, but are not at present thought of. Gargles are sanctioned by reason and experience. Lesions of the Eustachian tube, so frequently originate in affections of the throat and posterior nares, that it is of consequence to attend to the latter. The gargles should be adapted to the condition of the throat, a point on which it is unnecessary to dilate.

e. Drops or injections. If irritating or acrid these must be deemed dangerous. Dr. Turnbull recommends ointments with either *veratria*, *delphineæ*, or *aconitine*, to be rubbed around the ear daily; or four or five drops of a spirituous solution of either of these (gr. ij.—iv. to ʒss. of spirit), to be dropped into the ear. Douches of vapour or of warm water have been employed, and may, in some circumstances, be of service.

f. "*Injections into the Eustachian tube* were first recommended by Guizot; but Cleland, in 1731. first proposed them in a practicable mode, namely, by the nose; and Wathen long afterwards proved that a favourable result might be obtained from the practice. The injection of fluids into the tube was advised by Busson and others, to be performed by filling the mouth with the fluid; and, having firmly closed the lips and nose, by forcing it into the tube.—*Air* has also been directed to be forced into the tube, by Cleland and Sims, in the same way, in order to remove obstructions of it; and the smoke of tobacco has been similarly used, with the intention both of removing obstruction, and of exciting the organ, in nervous deafness, but with very equivocal results: I know one instance in which it proved decidedly injurious. Injections of medicated fluids, of vapour, and of air, into the Eustachian tube, by means of a suitable apparatus, have been severally resorted to by Itard, Delau, and Kramer—Besides injecting air as a means of Diagnosis, Dr. Kramer throws into the tube, through a catheter introduced into it, the vapour of *acetous æther*, generated in a proper apparatus, at a summer temperature; but confines the practice to cases of nervous deafness characterised by torpor, or those unattended by noises in the ear. He also aids the local means by remedies intended to improve the constitution, and the digestive and other functions." 164.

g. Of Russian vapour-baths, warm, fumigating, or sulphur-baths, we need say no more than that their names will suggest the cases in which they may be resorted to as auxiliaries.

This concludes the subject of deafness. We have gone through it in detail, for the same reason which has prompted Dr. Copland to introduce the article into his Cyclopædia—a wish to diffuse accurate notions on the subject among the mass of the profession. It is one which richly deserves their attention, and which, we would fain hope, will as richly repay it. However that may be, it is high time that, in this country, men of science expend some portion of their leisure and their study on the varied affections of the ear.

We now quit the Dictionary of Dr. Copland, an excellent work which every medical man should possess, but we only quit it for a season. We shall constantly have occasion to turn to its pages, and to avail ourselves of the vast collection of facts and of opinions which the industry, learning, and talent of its author have accumulated.

II. The tenth part of the American Cyclopædia, a work much more comprehensive than any of the medical Cyclopædiæ in this country, commences with the article ascites, and terminates with azygos. As it embraces the whole range of the medical sciences, and includes the materia medica, anatomy, physiology, &c. with surgery and physis, we may conceive without difficulty the extent, and form some idea of the probable value of the work.

Perhaps one of the most elaborate papers in the part before us, is that by Dr. Dunglison upon Asphyxia. The article Axilla is exceedingly well executed, and creditable to the anatomical and surgical knowledge of its author Dr. Geddings. The Atmosphere is ably investigated by Dr. Patterson and Dr. Dunglison, and altogether this part is a good sample of a good work. We hope our American brethren will encourage a publication, which is calculated to diffuse among them an acquaintance with medicine in its numerous and varied bearings.*

III. A new candidate for fame and fortune has started up in the Cyclopædia of Practical Surgery, edited by Mr. Costello. It has been doubted by some whether such a cyclopædia is required, whilst the Surgical Dictionary of Mr. Samuel Cooper enjoys the advantage of the superintendence and occasional revision of its author. For our own parts, we think there is room for another and more elaborate work. Excellent as are many parts of Mr. Cooper's Dictionary, there are many others which do not offer a sufficient or perhaps an accurate account of what is known by the best informed surgeons of the day, and a Cyclopædia which would really represent existing knowledge, would be, in our opinion, a desideratum. Whether the Cyclopædia before us will answer the expectations which have been excited, and supply the want we have alluded to, will be apparent after a few numbers have been published. We are sure that the editor has exerted himself greatly to secure the co-operation of the ablest hands, and if industry can ensure success, his labours ought to be successful.

The aim of the editor has been to secure a practical rather than a learned series of articles—an aim agreeable to the tastes of professional men in this country, whose habits of utilitarianism lead them to prefer what is of immediate and palpable advantage—to what is merely recondite. We wish this Cyclopædia every success, and shall take care to notice whatever may be novel or valuable in its pages.

The first part contains the articles—Abdomen—Abortion—Abscess—Acupuncture—Adhesion, Adhesive Plaster, and Aide—Albugo,—Alesé,—Alum—Alveoles—Alvine Concretion—Amaurosis—and Ambulance—with some other minor articles which it is unnecessary to particularise.

Perhaps the best article is that on Amaurosis by Mr. Tyrell. To this we shall refer in another place.† The subject of Alvine Concretions is handled by Dr. Alexander Monro, in a not uninteresting manner, and we shall present an account of his paper.

Alvine or Alimentary Concretions. Dr. Monro excludes biliary concretions from consideration, unless they constitute the nuclei of the alvine of which he treats.

* We regret to say that we have not received many of the previous parts. We shall endeavour, as opportunities occur, to take a more particular notice of this work.

† Vide the notice of Middlemore on the Eye.

Substances, he says, of this description have been occasionally found within the stomach or intestines of man or quadrupeds after death; or they have been discharged during life by the effort of vomiting, or by straining at stool. Such substances are not equally common in every part of the alimentary tube; their most common seat is at the commencement of the larger intestine, near to its termination in the anus, or in the sigmoid flexure of the colon, where they have been frequently lodged for a very considerable time, obstructing, to a more or less extent, the passage of the fecal matter, thereby deranging the functions of the digestive apparatus, and ultimately causing great distention of the bowels, which is often succeeded by acute pain, febrile symptoms, inflammation, ulceration, and the death of the animal.

Dr. Mason Good speaks in his *Nosology* of enterolithes and of stony concretions in the stomach or intestinal canal. He would seem to look on these as the results of morbid action, occasioning the deposition of phosphate of lime. Dr. Monro justly views this as a too exclusive notion, and informs us that he has not had an opportunity of examining any concretion in the alimentary canal answering precisely to Dr. Good's description of the enterolithes.

The inferior animals, from the nature of their food and of their tegumentary coverings, are more liable to alimentary concretions than man is. These are not unfrequent amongst horses, oxen, deer, and other quadrupeds that live on grass and other vegetable matter. That their production is connected with the covering of the animal is obvious from the fact that those concretions or balls, as they are commonly called, are by no means uncommonly met with in the stomachs of horses, oxen, calves, and deer, and these are found to be composed chiefly of hairs corresponding in all respects to those on the skin of the animal, and cemented together by the mucus and saliva of the throat.

It is reasonable to suppose that the kind of food must exert much influence on the formation of these extraneous bodies, and facts appear to bear out the conclusion. These concretions, for example, are more common in Scotland, where oatmeal bread is used, than in any other part of Europe. Dr. Johnson's definition of oats* is no doubt in the main a true one, and our Caledonian peasantry suffer from their coarse and homely diet. Dr. Monro has had abundant opportunities of examining the stools of his countrymen, and the result is such a classification of the various sorts of concretions found in them, as must excite the admiration of all other people.

"The concretions found in the alimentary canal vary considerably in their physical and chemical properties, and may be classed as follows: The first class comprehends such concretions as are formed of a number of very small vegetable fibres, being composed chiefly of the husk of the oat, held in union by a tenacious mucus; in some concretions of this description, the centre or nucleus is sometimes found to be a cherry or prune stone, a small fragment of wood or bone, or a little gravel; and, according to some authors, a small biliary concretion, or a small portion of adipocire. In some, but by no means in all such concretions, there are a few white, thin, concentric, laminæ, which are either phosphate of lime, or the ammoniaco-magnesian phosphate. When such concretions have attained a considerable size they are of irregular shape, sometimes

* Food for horses in England, and for men in Scotland.

tuberculated, and resembling a mulberry, and sometimes incrustated by a coating of phosphate of lime, or ammoniaco-magnesian phosphate, of two or three lines in thickness.

The second class of concretions, which is much more rare than the first, bears some resemblance to it, being composed of a number of cherry or prune stones or gooseberry seeds cemented together by a tenacious mucus. Concretions of this description have also been described by Mr. Children, (Phil. Trans. 1822,) and he has given a case where such a concretion proved fatal a very short time after the patient had eaten a large quantity of plums.

The third class differs essentially from the two preceding, being composed of vitiated bile, saliva, or pancreatic juice, and are not primarily formed within the alimentary canal, but find their way into it through the ducts proper to the salivary glands, pancreas, or liver.

The fourth class comprehends those concretions which are composed of a cetaceous substance: they have neither the specific levity, crystallized form, colour, nor bitter taste of gall stones, and are probably formed in the intestinal canal."

The fifth class comprehends those concretions, the nature of which was discovered by Dr. Kennedy of Glasgow, (see *Medico-Chir. Journal* for Sept. 1817), and which Dr. Ure has described as similar in colour to ambergris.

"The sixth class comprehends such concretions as are composed of magnesia or chalk, and which have been found in the alimentary canal of persons who for sometime have been in the habit of taking considerable quantities of these earths.

The seventh class is that which comprehends those concretions which are described as having been discharged by vomiting, by persons who had suffered severely from gout; but of these I know nothing, not having yet seen them.

The last class of concretions found in the human alimentary canal is almost entirely formed of the fibrine of the blood, which is incorporated with a certain proportion of the red globules, and occurs sometimes when the mucous membrane of the intestinal tube has been attacked by acute inflammation, as in severe cases of dysentery."

Dr. Monro having enumerated the preceding varieties of alimentary concretion, confines his descriptions chiefly to the first. His observations upon these are mainly founded on the large collection of them in the Anatomical Museum belonging to the University of Edinburgh. He examines them successively under the relations of number, size, figure, colour, structure, or chemical composition. He then investigates the causes which give rise to their formation, the symptoms which attend them, and the treatment medical and surgical adapted for them. We shall follow Dr. Monro through these sections of his inquiry—as, probably, the majority of medical men are very imperfectly acquainted with the subject.

A. *Number*.—One or two concretions only are usually found in the human alimentary canal. But Dr. Munro's father was accustomed, in his lectures, to make mention of the case of a boy of twelve years of age, in whose colon he could distinctly feel twelve concretions of different sizes, and these were moveable. Dr. Malcolm, of Perth, sent our author two, of sixty concretions which he took from the same individual, some of the smaller having been discharged by the anus, and the larger being found after the patient's death impacted firmly in the large intestines. Some other instances of numerous calculi are quoted. It is singular that, though these are so rife at Edinburgh, they are scarcely to be met in Glasgow. Professor Burns has not only never seen a case of this description, but he has never known any one who had seen one.

B. *Size*.—"The size of these concretions is extremely various. Some do not exceed that of a garden pea; but others are as large as an orange. My grand-

father has described several he met with, as being five, six, seven, and even eight inches in circumference; and from the body of a woman, who consulted my father, a concretion was taken out of the colon, three years after by Mr. Renton, surgeon, in Pennycuick, which weighed four pounds." 69.

c. *Figure*.—The large concretions are more irregular in size than the small, and some seem to be made up of a congeries of others. Some alvine concretions are perforated by a number of small holes like certain corals. The smaller concretions are somewhat of an oval or spherical shape, slightly flattened at the sides, which is probably occasioned by the friction and pressure of one concretion upon another; and some impress each other so much as to resemble a cup and ball.

d. *Colour*.—The colour of the surface of the smaller calculi is an ochreish yellow—that of the larger coffee-like, or purple, or, in some instances, whitish.

e. *Structure*.—"The human alvine concretions which were collected by my father, are, with a few exceptions, similar as to structure; all are more or less porous, and somewhat like dried sponge; when examined by the aid of a good magnifying glass, they seem to be made up of a number of very small fibres, intimately interwoven with each other, like those in a hat, or in chamois leather, and the interstices between the fibres are filled up by earthy matter.

In consistence, these concretions resemble dried sponge, and like it, may be cut with a sharp knife; but when a blunt knife is used, the dried concretion crumbles to pieces. There are small holes on the surface of a few concretions, which pass for about half an inch into the substance of the calculus; and in one of the specimens there were twelve cavities of a cylindrical form, which penetrate as far as the very centre of the concretion, and were filled with a viscid mucous." 69.

The external crust of the larger concretions seldom exceeds two or three lines in thickness. Upon making a section of them, they are mostly found to be composed of distinct layers of a yellow or brown colour, but in some the layers do not pervade every part of the calculi; in some, there are no layers observed. But those found in the deer form an exception to the above observation; for some have a radiated structure, like biliary calculi. The lamellæ, which are about two lines in thickness, are generally of a lighter colour than the rest of the calculus, but sometimes they are darker. In the centre is usually some substance which has acted as a nucleus—a prune, or a cherry-stone, or a small piece of bone, or a biliary calculus. In some there are cavities, filled by small grains of sand adhering to each other by several small fibres. In the upper part of some of the concretions, many distinct white shining crystals are visible. By exposure to the air, the internal part of the concretion acquires a darker colour. Some further observations are made on the structure of these bodies, but we do not consider it necessary to pursue them.

f. *Chemical Analysis*.—No very unexceptionable analysis has hitherto been made of these concretions. To supply the deficiency, our author submitted several to Dr. T. Thomson for examination.

"1st.—At first, they swim in water; but that is owing to their numerous pores being filled with air; as soon as it is expelled, they sink to the bottom, and remain there. The specific gravity I found to vary in different specimens from 1.376 to 1.540. I consider 1.400 as about the average specific gravity of the whole.

2nd.—When left in cold water, they soon communicate to it a brownish tinge. The water was found to have taken up the following substances:—

1. Albumen, which was separated in white flakes by boiling the water. 2. A brown substance, which I consider as peculiar; it dissolved, at first, in water, but became nearly insoluble by the slow evaporation of the liquid; it dissolved in alcohol; it approached most nearly, in its properties, to vegetable extractive; but the quantity which I obtained was too small for an exact examination. 3. Common salt, which crystallized when the water was allowed to evaporate spontaneously in an open vessel. 4. Phosphate of lime, which was precipitated by ammonia. 5. Sulphate of soda, in a very minute proportion. 6. Perhaps, also, sulphate of lime; but the quantity of this salt must have been very small.

3rd.—Alcohol dissolved the peculiar brown matter, and some of the salts, but extracted nothing particular.

4th.—Potash ley separated the albumen, the brown matter, and perhaps some of the salts.

5th.—Muriatic acid separated a notable proportion of phosphate of lime.

6th.—After the action of all these re-agents, there remained behind a peculiar substance, having the colour and texture of the calculus. Ten grains of calculus left 1.2 grains of this matter; it was very light, having the appearance of cork, or rather, of the peculiar fungus, which is used on the Continent for tinder, and which the French call *amadou*; it was in very short threads. This substance is tasteless, insoluble in water, alcohol, æther, potash ley, and muriatic acid; it blackens sulphuric acid, and is dissolved, being partly reduced to charcoal. In nitric acid it dissolves very slowly, and only when assisted by heat, and hardly effervesces. When the solution is evaporated to dryness, a whitish residue remains, which has a bitterish taste, and is imperfectly soluble in water. Nitric acid does not convert it into any of the vegetable acids, though digested on it repeatedly. This substance burns with a slight flame, and rather like a vegetable than an animal body. It is undoubtedly of a peculiar nature, differing from every animal and vegetable substance hitherto examined. Its insolubility in potash ley distinguishes it readily from wood. It has no resemblance to any animal substance whatever.

7th.—The calculi consist essentially of alternate layers of this peculiar substance, and of phosphate of lime. Sometimes the substances are intimately mixed, instead of being in alternate layers. The albumen and brown matter seem to serve as a cement; the other substances are in a small proportion. The crust on the outside of some of the calculi consists of phosphate of lime, mixed with a brown animal matter. In a few specimens I observed crystals of phosphate of ammonia and magnesia, upon the outside crust of the calculi; but these appearances are uncommon."

The calculi are clearly insoluble by any substances which could be applied to them in the living body. Though the composition of different specimens varies, they all contain that fibrous substance which Dr. Thomson considers a peculiar substance. Though analysis does not clear up all obscurity with respect to their formation, we may yet suppose that they are occasioned by the remains of ingesta, round which are deposited saline and other ingredients derived from the food and the secretions.

Causes of Alimentary Concretions.—To these we have already alluded. The indigestible debris of the aliment usually constitute the nucleus, while the irritated or the weak mucous membrane, by its vitiated secretions contributes to the increase of the calculus. Excessive doses of magnesia have given rise to concretions.

h. *Symptoms.*—"Alvine concretions prove a source of much irritation, and impair the functions of the stomach and intestines, exciting pain of variable intensity, sensibility of the entire abdomen, nausea, and severe vomiting; dis-

tion of the alimentary tube, inflammation, looseness with much griping, or constipation with tenesmus and tormina, hiccup, &c., the symptoms having a general resemblance to those produced by a strangulated hernia. The pain in the bowels is, in some cases, fixed to one part, being much more severe at one time than another, especially after taking acids, or food of difficult digestion; the ingestion of these substances is frequently followed by nausea and vomiting; dry skin; furred tongue; quick pulse, and other febrile symptoms, which, however, are transitory. Some patients are constipated for two or three days, and have, notwithstanding, a constant inclination to go to stool. Such is the case, more particularly, when the foreign body is stopped in the colon, or rectum, the fixed position and distensibility of which, favour its stoppage. In these cases, there is not only the impossibility of voiding the excrements, but sometimes the urine itself is retained. The belly is meteorized, the colic pains and vomiting are severe; sometimes there is hæmorrhage, or oozing of purulent matter from the anus; if no remission of the symptoms can be procured, enteritis, peritonitis, and gangrene, supervene. Others have watery stools, and discharge with them a quantity of viscid ropy mucus, or blood, after which they are much relieved. Some patients who for years have been afflicted by this disorder, suffer much from a burning sensation at the pit of the stomach, and some discharge their stools involuntarily.

Upon relaxing the parietes of the abdomen, a very hard, painful, globular tumour may generally be felt at the origin, or in the course of the large intestines; and very often at the sigmoid flexure of the colon.

The concretion is generally immovable within the intestine; but often appears to change its place in consequence of the change of place of the intestine which contains it. Hence the change appears greatest where the concretion is in the small intestines, or arch of the colon, which, from the length of mesentery, or meso-colon, are very moveable." 73.

Ultimately the patient is quite reduced and worn out. Concretions have, in some cases, remained for years before they have been dislodged. When they are very large, and lodged either in the transverse arch, or sigmoid flexure of the colon, they may be distinctly perceived. When the concretion passes into the rectum, it creates excruciating pain in the region of the pelvis and fundament, especially when the patient goes to stool, and the extraneous body may then be perceived during the effort of straining at stool. In fortunate cases it is either ejected by vomiting, or discharged by stool, or extracted from the rectum.

Tumors occurring in the tract of the alimentary canal may be mistaken for alvine concretions. Amongst those tumors we may enumerate such as spring from the omentum or the mesentery, incipient dropsy of the ovaries, anormal position of one of the kidneys, and scirrhus pylorus. The diagnosis of these or of other tumors must hinge on precise investigation of their nature, a close inquiry into their history, and an accurate general acquaintance with pathology. It is idle to detail two or three cases, or to attempt by their means to elucidate diagnoses which can only be based on extensive knowledge. The only case we would extract is that which follows:—

Case. "I was desired by the late Dr. Kilgour of Musselburgh, to visit a man of seventy-three years of age, much emaciated, suffering very acute pain in the abdomen, which was much increased on pressure, and who had had no passage from his bowels for several days. His pulse was quick and hard. The relations informed us that he had been for many years subject to costiveness and stomach complaint. Upon examining the abdomen, several hard substances were distinctly perceived by the touch, a little above the left ilium; these hard substances, it was stated, had been distinctly felt by Mr. Cunningham, surgeon, at Tranent, and also by themselves, for eight or ten years.

Venesection, and large doses of purgatives were employed, but in vain; the patient died in six days after I visited him.

His body was opened by my assistant, Mr. Fyfe, in the presence of Dr. Kilgour and myself. All the viscera of the abdomen were found in a sound state, excepting the sigmoid flexure of the colon, on which there were several black spots; it contained a mass, which, on being minutely examined, proved to be fæces, very much indurated, and collected into a number of hard round tumours." 73.

Dr. Monro particularly dwells upon a point which he deems of much importance:—that alvine concretions may at first be moved from one part of the alimentary canal to another, but that at length they become immoveable. This circumstance he thinks both marks the progress of the malady, and determines the chance of dislodging the concretion.

If the concretion is not voided or removed, the obstruction of the intestines continues to augment, inflammation is set up, and the patient dies.

Appearances on dissection.—In the milder cases, the intestines are found to be considerably dilated, above the place where the concretion has been lodged, and in some there is a distinct sac, the coats of which attain a considerable thickness. In one instance, the ileo-cæcal valve had disappeared. The mucous membrane of the sac was much thickened and corrugated, so that the cavity which lodged the concretion seemed to be formed by a dilatation of the extremity of the ilium. The villi on the mucous membrane were not perceptible. Owing to the irritation of the concretion, the intestine is sometimes found contracted above and below the seat of the concretion; and in the cases described by Monro, Turner, and also by Horstius, the concretion adhered to the inner surface of the sac. Where death has been occasioned by inflammation, this may have extended to a greater or less distance, and produced its usual and familiar consequences. In a very few cases, ulceration of the intestinal canal has permitted the concretion to escape into an abscess.

Treatment.—Dr. Monro favours us with very circumstantial directions on the mode of treatment, when concretions have given birth to colic, constipation, inflammation, and so forth. But we need not detain our readers by repeating them. An acquaintance with the general principles of medicine would suggest them. Perseverance in oily and emollient purgatives, and glysters, is probably as little adapted to do harm, and as much adapted to do good, as any other method of management. Dr. Monro quotes from his father's memorandum a case in which this plan was pursued, and would perhaps have been in the end successful, if the patient had not died of the concretion in the interim.

Treatment by an operation.—When the concretion is low down in the rectum it may be removed by forceps introduced into the bowel through the anus. This has been several times done with success.

But when the concretion is not within reach of an instrument introduced through the anus, it has been proposed to cut into the bowel, and remove the calculus through the wound. Dr. Monro secundus recommended the performance of the operation, by a vertical incision, extending from the twelfth rib to the upper part of the ilium—an incision by means of which the colon might be opened behind the peritonæum, and without injury to it. Others have advocated making an artificial anus in the groin. And others, "going the whole hog," have advised the surgeon to cut into the belly direct, and not to care a rush for the peritonæum.

When we reflect that the existence of concretions is not generally indicated by conclusive symptoms—that when it is so, the concretion *may* not be in that portion of the colon which is accessible without a wound of the peritonæum—that the risk of any operation must be great, its performance difficult, and the issue dubious—when we reflect upon all these circumstances, we think we may predict that gastrotomy will seldom be performed for alimentary concretions, and if performed, that it will be so oftener than it will succeed.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcumque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

THE BRITISH FLORA MEDICA; OR, HISTORY OF THE MEDICINAL PLANTS OF GREAT BRITAIN. Illustrated by a Coloured Figure of each Plant. By BENJAMIN H. BARTON, F.L.S. and THOMAS CASTLE, M.D., F.L.S. Vol. 1. 8vo. pp. 408; and 101 Coloured Figures. London; E. Cox, St. Thomas's-street, Southwark.

We approach this work with a two-fold pleasure. The first is on our own account; the second on that of our readers, and the profession in general. For ourselves, it is delightfully refreshing, after toiling through many an arid waste of letter-press, to enter a flower garden, where plants of every form and hue, are blooming in all their native loveliness. Through all the dreariness of a tedious winter, we have been presented with a never-failing succession of these elegant creations; which, beautifully coloured as they are, have turned our study into a conservatory.

With respect to our readers, and the medical profession at large, the pleasure which this work affords us, arises from the assured prospect we have of its extensive utility. This utility will extend to various classes of which the profession is made up. To the student, in the first place, it will be invaluable. Without quoting again what has been quoted so often, the classical allusion to the deeper impression made by objects presented to the eye than by those described to the ear, we may lay it down in plain English as a principle, which comes home to every one's ex-

perience with all the force of an axiom, that a great saving of time and labour is effected, and a much more accurate and intimate knowledge is acquired, when objects and images themselves, instead of mere verbal descriptions of them, are presented to the senses. Hence the great advantage of specimens, preparations, experiments, and diagrams; and the eminent success of what we may call "the illustrative method," which of late years has been acted on so largely.

This holds good in every science which admits of optical illustration; but botany is a science which pre-eminently demands it. Notwithstanding its minute and accurate language, the most laboured description of a plant will give a less adequate notion of it, than a single glance at the plant itself. But plants are not to be obtained at all times, and in all places. In the heart of a city and the depth of winter, they could not be procured; and even in the country, and with a favorable season, the student is often unable to devote the time necessary for seeking and gathering them. In such circumstances, it is fortunate that a very good substitute for the plants themselves, may be found in representations of them, provided those representations are coloured in strict accordance with nature; and we have no hesitation in saying, that an attentive study of the admirably coloured plates in the work before us, together with a careful perusal of the lucid and interesting details which accompany them, will leave little

to be learned by an actual inspection of the plants thus described and illustrated.

To those, again, who are actively engaged in practice, this work will be found of essential service. Occupied, during the day, in a round of professional visits; and paying supreme and almost exclusive attention to the practical details of their art, their theoretical and general knowledge is apt to slide into forgetfulness; unless means are taken occasionally to revive and refresh it. One of the most effectual of these means, in the science of Botany, is an illustrated work, which, by the fidelity of its representations, will supply the place of the actual specimens, which other avocations will not permit of being collected. This is just the desideratum which the work before us is calculated to supply. By the inspection of an hour or two in the evening, it will revive fading impressions; and make "the burying-places of the memory give up their dead."

There is yet another class by whom this work will be hailed with peculiar satisfaction. We allude to those who are called to practice in a foreign land; and who, in the midst of gaudy exotics, are in danger of forgetting the humbler plants of home-growth which they have left behind. To these the British Flora Medica, will come with a peculiar charm; and we are persuaded that after the particular and impartial description we shall give of it, no medical man will leave his native shores, without making it an essential article of his outfit.

We shall allow the authors (in the following extract from their preface) to give their own account of the object they had in view, in the publication of this work, an object which (so far as they have yet proceeded) we must candidly acknowledge has been attained to our entire satisfaction.

"The immediate design of this work, is to furnish an accurate description of all the medicinal plants indigenous to Britain, which appear entitled to that character, from the estimation in which they were held by the greatest and most skilful of the old physicians. That

they were generally correct in their judgment is apparent from the fact, that several of the plants which they recommended, after having been allowed to sink into oblivion, and to remain there neglected for many years, have again been successfully used by modern practitioners. This is well exemplified in the history of fox-glove; the more prominent effects of which, were fully understood in the sixteenth century. It was admitted into the London Pharmacopœia in 1725; was discarded in 1746; and has lately been restored with more than its pristine honours. How many more blest secrets of the earth remain yet to be discovered, it is impossible to predict; but if these pages should succeed in calling attention to one such plant, the labours of the authors will be abundantly recompensed."

In pursuance of the object thus stated, the plan adopted is to give a coloured engraving of every British plant, employed either in professional or domestic medicine; each figure being accompanied by a letter-press description, which is full without being wearisome, and concise without being meagre. The order in which the plants are described, is not systematic, but alphabetical; nor does the latter conform to their scientific names, but to their common appellations; although the former stands first. This arrangement we should have objected to, in a scientific work with a Latin title, were it not that at the end of the volume a table of contents is given, in which the plants are arranged alphabetically according to their scientific names. We presume that at the end of the work an English Index will be given.

The description of each plant comprises its scientific and common name; its class and order in the Linnean arrangement; its place in the natural system; its generic and specific characters; and a remarkably copious list of synonyms. We have been particularly struck with this feature of the work; which comprehends the name of each plant in from ten to fifteen different languages; comprising the Latin and Greek always; sometimes the

Hebrew; most of the European, and many of the Asiatic tongues. After, follows an account of its general appearance and history; its qualities and medical uses. We give a specimen.

"No. 83. *Fumaria Officinalis*. *Common Fumitory*. Class 17; *Diadelphia*. Order 1; *Hexandria*. Natural Order; *Fumariaceæ*. Generic Characters. *Calyx* of two deciduous leaves. *Petals* four, irregular, one of them spurred at the base. *Silicle* indehiscent, valveless, one-seeded. *Style* deciduous. Specific Characters. *Silicles* globose, refuse. *Pedicles* fruit-bearing, erect, more than twice as long as the bractææ. *Leaves* supra decompound. Leaflets wedge-shaped, cut, with linear-oblong lobes. Synonymes. *Greek*; *καρνος*, (Dioscorides). *Latin*: *Fumaria officinarum*, et *Dioscoridis* Bauh. Pin. 143). *Fumaria purpurea* (Ger. Em. 1088). *Fumaria vulgaris* (Raii Syn. 204. Park. Theatr. 287). *Capnos fumaria* (Lob. obs. 437). *Fumaria officinalis* (Lin. Sp. Pl. 984. Eng. Fl. III. p. 255. Eng. Bot. t. 589) *French*; *Fumeterre*; *Fumeterre officinale*. *Italian*; *Fumos-terno*; *Fumaria*. *Spanish*; *Fumaria*; *Palomilla*; *Hiel deterra*. *Portuguese*; *Fumaria*. *German*; *Erdrach*; *Ge-meiner Erdrach*; *Taubenkropf*. *Dutch*; *Duive-Kervel*; *Aard-rook*; *Grysecom*. *Danish*; *Jordrog*; *Aakersissel*. *Swedish*; *Jordrök*. *Polish*; *Rutha ptasza*; *Persian*; *Schahtra*. *Japanese*; *Fin-gosakf*. *Arabic*; *Bucklutulmeric*."

As a relief to these necessarily dry details, and as a specimen of the interesting style in which the great body of the work is composed, we quote the general description of the *Bellis Perennis*, or Common Daisy.

"This modest, crimson-tipped flower, the delight of all ages, is as frequent as it is beautiful. It gems our meadows and pastures from March to November; most abundantly in the height of Spring and the beginning of Summer; but a few may be seen at all seasons. Hence Montgomery says—

'It smiles upon the lap of May;

To sultry August spreads its charms:
Meets cold October on his way;

And twines December's arms.'

And Shelley, in his exquisite dream of Spring-flowers, introduces—

'Daisies, those pearl'd Arcturi of the earth;

The constellated flower that never sets.'

The generic name is derived from the Latin, *bellus* (pretty). It was also called *Margarita* (a pearl); of which there are synonymes in many of the Continental languages. The bold and cheerful manner in which its petals expand to the light of day, and their habit of closing again at night, and against rain, suggested the name of *daisy*, or as Jonson calls it, *day's-eye*. Chaucer, whose affection for this flower manifests itself in many parts of his poems, gave it the same designation in 'Aprilis and his pleasant Showres,' and in the 'Legende of Goode Women.'

'That well by reason men it call may
The *daisie*, or else the *eye* of the *daie*.'"

We pass on to its "Medical Properties and Uses," which the necessity of economising our space obliges us to condense, as we have done the preceding extract.

"Whatever poetical fame may have encircled the daisy's coronet, its reputation as a medicine has dwindled almost to nothing. The ancient physicians were very lavish in its praise: and for its supposed vulnerary properties, it received the pharmacopœial name of '*consolida minima*.' Fabricius and Ettmüller speak of its efficacy in promoting the absorption of extravasated blood. Matthioli affirms that even penetrating wounds of the thorax have been cured by this remedy; and König goes so far as to assert, that in lesion of the lungs themselves, it has proved extremely beneficial. Hence it came to be considered as an anti-pleuritic, and was prescribed in nearly all the diseases to which the lungs are incident, as well as in liver complaints, agues, dropsy, asthma, and scrofulous swellings. Some of the moderns have esteemed it beneficial in phthisical complaints; and it still occupies a place in a few of the Continental pharmacopœias. The tincture of the flowers (in the Wirtemberg pharmacopœia (con-

tains a portion of sulphuric acid; to which its reputed soothing and refrigerent properties are doubtless attributable. The expressed juice of the plant, in the dose of half an ounce, is sometimes given by the poor to their infants as a laxative. They also consider it a remedy for fluor albus. The root of this plant, which is the part most potent in sensible qualities, may probably be found, at some future day, not inert as a medicine."

The preceding extracts are sufficient evidence of a fact, which every page of the work abundantly confirms,—the research and labour employed in its construction. Not only our own favourite English poets, but classic authors of every age, are laid under contribution. Not a single allusion to a plant is allowed to pass without notice and illustration; and the work might be consulted with advantage, in any future edition of our standard Greek and Latin authors. Take the following elegant little *morceau* from the description of the *Acanthus Mollis*; which had the honour of having given rise to the Corinthian capital.

"The generic name (derived from *ακανθα*, a spine) does not apply to this species, which is smooth and unarmed. Nevertheless it is the *Acanthus*, *par excellence*;—the plant celebrated by Virgil, Ovid, and other poets. It has been renowned for ages, on account of the beauty of its leaves, which furnished the ancient sculptors and architects with one of their chief ornaments. The Greeks and Romans carved them upon their vases, and their massive goblets; and wove them into their costly vestments. The discovery of their ornamental character is contained in the following legend. A young lady of Corinth having died a few days before her marriage was to have been celebrated, her afflicted nurse put into a basket different articles of which the girl had been fond; and placing it near her tomb, upon a plant of the *acanthus*, covered it with a large tile. The following spring the *acanthus* grew up; and its large leaves encompassed the basket; but meeting with the projecting tile, they were curved at

the extremity and bent down. An architect named Callimachus passing by, was struck by the novelty and beauty of the figure, and resolved to apply it to the decoration of the Corinthian capital."

Historical details are introduced, whenever the subject demands or admits it; and have the effect at once of enlivening and enriching the description. We select, as an example, the introduction and early history of the Hop (*Humulus Lupulus*); the name of which is derived from the Anglo-Saxon *hoppa* to climb. Under the head of this plant, interesting particulars are given of its culture, growth, gathering, preparation for the market, and uses, both general and medical; the latter comprising an investigation of its active principle, lupulin.

"The first mention of hops occurs in a letter of donation by King Pepin, which speaks of *humuloraie*, meaning probably, hop-gardens. Beckmann does not find the word *lupulus* to occur earlier than the eleventh century. About the beginning of the following century, hops were introduced into the breweries of the Netherlands. They seem to have been unknown in England, till brought from Artois about the year 1524. Ale, the common drink of our Saxon ancestors, was made generally from malt alone, or clarified with ground-ivy (hence called *alehoof*) which was thought to render the liquor more wholesome. Parkinson says—'The ale which our forefathers were accustomed only to drink, being a kind of thicker drink than beer, is now almost quite left off to be made; the use of hopped to be put therein, altering the quality thereof to be much more healthfull.' And Gerard makes a distinction between ale and beer:—'The manifold virtues of hops do manifestly argue the wholesomeness of beer above ale; for the hops rather make it a physickall drinke to keepe the body in health, than an ordinary drinke for the quenching of our thirst.' For several years after the introduction of hops, there was a strong popular prejudice against them. Henry VIII issued an injunction to the brewers, not to put any

hops or brimstone into the ale. Walter Blith, in his 'Improver Improved,' published in 1649, informs us—'That not many years since, the famous city of London petitioned the Parliament against two nuisances; and these were Newcastle coals, in regard of their stench, &c., and hops, in regard they would *spoyle the taste of drink*, and endanger the people.' Now, however, severe penalties are inflicted on brewers who use any other bitters for preserving their beer."

On the subject of poisonous plants, the directions of our authors are very precise. The appearance and characters of such plants, are described with great attention and accuracy; so as to prevent, as far as possible, their being eaten by mistake; and when such an event has unfortunately taken place, the succinct account which is given of the treatment proper to be pursued, will be found of great service in all cases; but especially so in country places, where medical assistance is not immediately at hand. The whole is rendered more impressive, by the relation of a number of interesting cases. We select one or two, under the head of Aconite.

"Willis relates an instance of a man, who accidentally ate some of the leaves in a salad, and died mad in a very short time. Matthioli mentions the circumstance of four robbers, under sentence of death, to whom this plant was administered; two of whom, after suffering the most violent torments, were saved by appropriate remedies. The other two died. One of the latter a few hours after taking the poison, became idiotic, the face was bathed in a cold sweat; and a total loss of sensation, with fainting and spasms, followed. He vomited a quantity of bilious matter; the body swelled up; and he died in a state of apoplexy.

"In the Philosophical Transactions is related the case of John Crumpler; who, at eight o'clock in the evening, ate a salad into which, by some negligence, a few leaves of the aconite had been introduced. He instantly felt a burning heat in the tongue and gums, and a considerable irritation about the cheeks. He imagined that the blood

no longer circulated through the limbs; but felt no disposition to vomit. Perceiving that the symptoms increased, he drank about a pint of oil, and a great quantity of tea, which produced vomiting. The symptoms, however, instead of disappearing, grew worse; and at ten o'clock a surgeon was called in. He was treated with sal volatile, an infusion of the blessed thistle, &c. The next morning he was much better; and soon recovered.

"A family near Lille were poisoned by this plant, in consequence of a tincture of the roots being mistaken for that of a species of lovage. The usual symptoms soon appeared, with swelling of the face, vomiting, and purging. Two of the individuals died. Linnæus relates that an ignorant surgeon, who prescribed the leaves of the aconite, on his patient's refusing to take them, took them himself, and died.

"The writer has lately been informed, on credible authority, of a case of idiocy supposed to have been occasioned by this plant. The unfortunate sufferer was a young man, much attached to floricultural pursuits. He was suddenly taken ill, with the most violent symptoms produced by that class of poisons to which the aconite belongs; but his maniacal state precluded any satisfactory conjecture as to the precise cause. A celebrated physician was called in, and by vigorous measures, subdued the violence of the disorder; but the mental faculties were fearfully impaired. He had no recollection of his former pursuits; was unable to comprehend the simplest matters; and was, in fact, taught his alphabet a second time. Being obliged to be treated as a mere child, he was one day shewn, for his amusement, a collection of plates, among which there happened to be a figure of the aconite. He immediately exhibited great agitation and alarm, pointing at the plate, and then to his mouth, and uttering incoherent noises. His friends then suspected the true cause of his malady, and concluded that it must have arisen from his having incautiously swallowed some part of the plant, while engaged in his favourite avocation."

The manner in which this work is got up, does the publisher great credit.—The print is clear; and the paper excellent. It is issued in monthly numbers, each of which contains forty-eight pages of letter-press, and twelve coloured figures. Four of the latter are grouped, without being crowded, on a page of thick drawing-paper; and this enables the proprietors to bring each number within the very moderate charge of half-a-crown. The whole will be completed in sixteen numbers; eight of which, forming a remarkably handsome octavo volume, have already been issued.

MR. HEADLAND'S ORATION BEFORE
THE LONDON MEDICAL SOCIETY,
1837.

Mr. Headland is one of the honorary secretaries, and one of the most distinguished members of this parent institution. He is an observant practitioner, of good education, and excellent natural abilities. We had always looked upon him as strongly inclined to medical aristocracy, and as setting his face against all innovations on our ancient and venerable institutions.—But we find we were much deceived. We ourselves have been often bantered in our projects of "*levelling upwards*" the several grades and denominations of the profession, but Mr. Headland is a *leveller* in the wholesale—or, as some of our contemporaries will say, no doubt, a *leveller downwards*.

"The present division of the profession into grades, and the subdivisions in the separate colleges or corporations, you are all so familiar with, that it would be a matter of unnecessary detail to describe them; I would only remind you, that there is scarcely one of *you* whom I have now the pleasure to address who is not by their bye laws excluded from the honours and emoluments of the college or corporation to which he may be attached. Now, I would ask, would not any person unacquainted with the fact, conclude that there must be an essential difference in

the education and consequent competency of the several practitioners in medicine, according to their academical rank? would they not be surprised at being told that so far as medical education is concerned, there is *no* essential difference between the Fellow of the College of Physicians and the extra Licentiate of that body; or between the President of the College of Surgeons, and the ordinary member of that body; or between either the physician or the surgeon and the apothecary; but that if strict examination be a test of competency, it is more perfect as regards the lowest of these grades than the highest—nay, that the apothecary is required to give evidence of greater knowledge of the sciences collateral to medicine, than even the physician."

There is much truth, but some fallacy in the above passage. The *medical* education of the three classes is *not* precisely the same; inasmuch as one of the corporate bodies prescribed five years apprenticeship behind the counter, as a component part of the medical education, while the other two bodies leaves the individual to pursue his classical studies where he likes (the Fellows of the College of Physicians at Oxford or Cambridge), and, at a certain age to undergo examination. We admit this tentamen is more searching at Apothecaries' Hall, than in Pall Mall East, or Lincoln's-inn-fields; but the apprenticeship renders the examination more onerous, on account of the number of years sacrificed in dispensing medicine.

The following complaint is put in strong language, and we think the cause of the complaint is a little exaggerated.

"Yet, after the many toils he has endured to obtain this proof, he who succeeds is contemptuously termed an *apothecary, from my lord to the shop boy*, and deemed subordinate to all other ranks in his profession—and why? Is it because he has no knowledge of medicine and the sciences that belong thereto—or because he has not the preliminary of a good education? No, for his examination is a proof of the suf-

iciency of both; but because he belongs to what by custom is considered the lowest grade of his profession,—And so it is with the profession itself—each in the ascending scale endeavours to elevate himself upon the supposed inferiority of one below him, from the Fellow of the College to the Licentiate of the Apothecaries' Company.”

We apprehend, from some observation and experience, that the public entertain no such *contempt* for general practitioners as our author infers—and that “from the lord to the shop-boy,” the public know very little of the education or qualifications of the different denominations of the profession. This, however, they know and act upon.—They very probably conceive that there is no difference in education or examination; but they see that one man takes to physic, another to surgery, a third to ophthalmic, a fourth to dental practice—and a fifth to all combined. It is not very unnatural for the public to conclude, on the principle of division of labour, that he who restricts himself to any one branch (allowing that the original education was equal), may acquire greater experience and skill in that branch than those who cultivate another, or all the other branches of the art. This we think, is both natural and just. And hence it is, that, in dangerous cases of physic, the physician's assistance will be called in—and that without any insult to the surgeon or general practitioner—and so will the pure surgeon (as he is called) in dangerous cases of surgery. Neither do we find the general practitioner either offended or vexed by these consultations. There are difficulties enough in our practice, and serious responsibilities attached to our decisions, to make us all very glad occasionally to have the co-operation of our brethren—and we ourselves have met Mr. Headland in consultation where there was anything but bad feeling on either side. But enough of this.

Mr. Headland has descanted with energy and eloquence on the beneficial influence and effects of medical societies. We can confirm his observations on this point, for we can conscientiously

affirm that we never left a meeting of this description without bringing away with us some additions to our practical knowledge that were afterwards available at the bed-side of sickness.

A TREATISE ON THE PREVENTION AND CURE OF PULMONARY CONSUMPTION. By ROBERT LITTLE, M.D. 8vo. pp. 160. 1836.

This is a respectable compilation in a small form, and calculated to do some good amongst non-professional readers—especially the second chapter, on the prevention of pulmonary consumption,—but surely Dr. Little must have greatly deceived himself if he thought that the fine thread with which he sewed together the facts and observations of others, could be taken for the substantial tissues which it connected. It is very true that the author has interwoven slight commentaries with the investigations of his predecessors, but very few will take the trouble of searching these out from the mass of well-known matters in which they are overwhelmed. He thinks, indeed, that if his principles and practice of *hygiene* were carried into effect, there would be a “*vast reduction in the number of victims*” to pulmonary consumption. Of this we have some doubt. But of the impracticability of carrying his hygienic plans into execution, upon any scale that would produce even a very trifling *reduction* of the malady we have no doubt at all. Thus, the preventive check is applied to the *fœtus in utero*, which is certainly taking time by the forelock! “During the whole period of utero-gestation, the system of the mother is to be kept in a vigorous state.” How is this to be done amongst the poor, where the disease is so prevalent? And we answer for it that the means taken to keep the wives of the rich in the greatest state of vigour, would be just those which would tend to increase abortion and various diseases—namely, good eating and drinking. Dr. Little, however, does not give us any rules for this invigoration

of the pregnant female, but passes on to the *post partum* state of the child, telling us that *no female*, of a scrofulous or consumptive habit, should be allowed to suckle her child. This is another specimen of the visionary and impracticable schemes of our author. But even were it possible to carry the rule into effect in this country, where nearly half the mothers and nurses would come under the proscription, how rapidly would the population be increased, beyond its already redundant condition!

While, however, the hygienic precepts of Dr. Little are inapplicable to the masses of the population, and consequently inoperative in the reduction of phthisical ravages in this country, we do not deny that his suggestions may be usefully put in execution in the cases of a few solitary individuals happily circumstanced, and philosophically constituted. We will quote the doctor's own words in proof of these assertions.

"With reference to the infants of those, who enjoy all the comforts of life, it is very easy to carry into effect any directions which are laid down respecting food, air, exercise, clothing, or any other thing which is requisite, at that stage of life, for the purpose of giving tone to the system; but the same is not the case with the poor, who in ninety-nine cases out of a hundred, cannot possibly provide for their infants almost any one thing that would be suitable for their tender age."

Instead of 99 in the hundred who are precluded from Dr. Little's hygiene by the *res angusta domi*, he might have said 999 out of 1,000! With these reflections we part from Dr. Little's work, reiterating our opinion, that it can be serviceable to only a very few, and that in it the author has evinced assiduity and research that might be more advantageously employed in some other direction.

PHILOSOPHY OF LIVING.

1. THE PHILOSOPHY OF LIVING. By —TICKNOR, M.D. NEW YORK, 2d Ed. 1836.
2. THE PHILOSOPHY OF LIVING. By HERBERT MAYO, F.R.S. London, 1837.

It is not a little curious that two authors divided from each other by the vast Atlantic, should have stumbled upon the very same title for their respective works! It is true that there was time enough for the British writer to have seen the transatlantic volume before he published his own, since the American work reached a second edition, and is reprinted in the American family library, of 1836. Still we do not suspect the least piracy in the case—for though the two works have the same title, and are nearly on the same plan, yet the execution of the one is totally different from the other. They both go into minute details on the diversities of constitution, diet, digestion exercise, sleep, bathing, clothing, air, passions, education, &c. &c. They thus traverse roads that have been beaten as smooth as the blocks of stone in the Via Sacra, when Rome poured forth her millions of inhabitants daily. That there is a good deal of original matter interwoven with established and well known materials, in these volumes, we readily grant; but, from the hacknied nature of the subjects, none but creative geniuses could impart much novelty now to the "Philosophy of Living." Of the transatlantic author we must hint our suspicion that he has much enthusiasm in his constitution, and consequently that some of his portraits of civilization, fashion, and refinement in the United States are "un peu trop fort." The extract which we have taken from his book on the "Snuff-chewing" of the fair Americans will bear us out in this remark. The English author is very circumspect in his observations, though he appears to have had a good deal of difficulty in steering between two dangers—that of entering too deeply into physiology for the general reader, on the one hand—or of being accounted

superficial by the professional critic. The former of the two he is most anxious to avoid, and the following reason will be considered rather curious—though we think it by no means a bad one.

“An author on *Hygiène* must, therefore, be content to skim the surface of knowledge, if he desires his work to be read by those to whom it can convey information. The cream, however, is often on the surface: and I believe it to be generally true, that superficial books are the most useful. Such is my defence, if, in the attempt to suit this volume to unprofessional readers, I have rendered it too trivial and discursive. I may be permitted to add, that I should not have ventured upon a treatise of so popular a character, had I not already given evidence, in former publications, of having laboured at severer professional studies.”

No one will suspect Mr. Mayo of inability to write minutely on all points connected with anatomy, physiology, pathology, or surgery; but there may be some who think that a young hospital surgeon can scarcely have had such amplitude of medical practice as to authorize a volume or volumes on matters peculiarly connected with the experience of the physicians. We see proofs of this position in various parts of the work where the *lamp* is more perceptible than the bed-chamber of the sick. We may refer to the section on “Bathing,” for illustration, and which, among some speculative opinions, the following passage will be found.

“It is believed that there exists a connexion between gout and acidity, difficult as it is to trace the link, or to follow its influence through the various stages of assimilation. Now the skin is a means of escape of superabundant acid. The perspiration is acid, and in proportion as it is profuse, it more completely rids the system of this principle. Theoretically, therefore, the vapour-bath should be a preventive of gout; and in practice I have seen its good effects; and have known great benefit derived from it, in cases where the diathesis has been strong, and no

contravening circumstances have been present.”

We apprehend that the beneficial effects of vapour-baths in gout, might be accounted for on other principles than the elimination of acid from the constitution. However, we have found little to criticise in Mr. Mayo's work, and much to approve. Although professedly written for the benefit of the general reader, we can assure the medical peruser of this volume, that he will find much to amuse and instruct him. We shall introduce some extracts from the work in another part of the *Journal*—and the same of Dr. Ticknor's publication.

THE WORKS OF JOHN HUNTER, F.R.S. WITH NOTES. Edited by JAMES F. PALMER, Senior Surgeon to the St. George's and St. James's Dispensary, &c. &c. In Four Volumes, illustrated by a Volume of Plates, in Quarto. Vols. I. and II. 8vo. pp. 632—488—London, 1835.

Fasciculus of Plates to the Two Volumes.

John Hunter has become so national an object of respect and pride, that a complete and a splendid edition of his works may be said to be absolutely necessary. There is no author with whom English surgeons should be more familiar, for our present ideas and practice are in a very great degree derived from him; yet, singularly enough, there is no author who has been generally less read and more robbed than he has been.

Much of the neglect which has been extended to his writings has arisen from the obscurity and involved structure of his language—more from the circumstance of his having been the pioneer of the modern improvements, and from those who have extended his researches having freely made use of his facts and principles. These considerations tend, it is true, to diminish our regret at the neglect which has been shewn by the medical community to Hunter's original writings, but they do not, nor can

they excuse such neglect on the part of those who desire to be well informed. There is something both delightful and instructive in conversing with an original mind, even though we may be otherwise acquainted with the facts which *its* originality has developed.—The enthusiasm, the freshness, the boldness are conveyed in the manner as well as in the matter, and insensibly the noble infection is caught, and we long to tread in the footsteps of genius.

We hail, then, the publication of this new and excellent edition of all John Hunter's works, with feelings of the highest pleasure. At the same time that it has issued from the press, the new library and enlarged museum of the College of Surgeons, of London, have been opened, and a professor of comparative anatomy has been appointed, to display the scientific treasures which Hunter has accumulated. That museum, so displayed, is the noblest monument which can be erected to his memory, and surgery, within the walls of her college, witnesses the honours rendered by the profession to her favourite child.

We hope that the spirit exhibited in the college, will be equally exhibited out of it, and though all cannot have John Hunter's museum, all may possess his published works.

The first volume contains the Life of John Hunter, by Drewry Ottley—an Appendix to that Life, consisting of a Chronological History of Mr. Hunter's Writings, of an Account of the Editions of Mr. Hunter's Works, and of Mr. Hunter's Evidence on the Trial of Capt. Donellan—and his Surgical Lectures, with Notes, by J. F. Palmer.

We extracted some of the more interesting anecdotes from his life in the last number of this Journal, and most of our contemporaries have extracted as liberally (or more so) as ourselves.

To the lectures on the principles of surgery, we shall allude more particularly in our next number, and therefore we say no more of them at present.

The Second Volume contains John Hunter's Treatise on the Natural History and Diseases of the Human Teeth,

with Notes, by Thomas Bell—and the Treatise on the Venereal Disease, with Notes, by George S. Babington.

The illustrations to this Edition, comprehending 348 figures, in 61 plates, embrace the whole of those which accompanied the original publications, and, with the exception of those on the teeth, and two or three others, (which have been newly executed by Mr. Basire), are impressions from the original plates, which have been re-touched, by the permission of the Council of the Royal College of Surgeons, wherever it was found necessary, from the Hunterian drawings and preparations. To these have been added several others, together with the celebrated engraving of Hunter by Sharp, after Sir Joshua Reynolds, and a medallion head taken from the author's bust in the Royal College of Surgeons, by Flaxman.

The Fasciculus of Plates before us consists of the Portrait—Plates 2, 3, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, 18, 19, 21, 23, 52, 53, and 57, with corresponding explanatory letter-press.

It only remains for us to speak of the execution of this edition. It is highly creditable to all concerned. The editor, Mr. Palmer, has evinced great care, diligence, and judgment—the several annotators, selected for their knowledge in particular departments, have kept the promise which their names held out, and not kept it the less because they have refrained from burying the original text in annotations. On the whole, we cordially recommend all who have not an edition of Hunter's works, and who can possibly afford to buy a good one, to buy this. When the other volumes appear, we shall take care to notice them.

NEW WORKS UPON ANATOMY AND PHYSIOLOGY.

- I. THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Part X. June, 1836. Edited by ROBERT TODD, M.D., &c. &c.

This part has been long delayed, and

the subscribers have evinced some degree of impatience at its non-appearance. It is the interest of publishers to ensure regularity in works which issue from the press in parts, for, if once distrust takes possession of the public mind, no such works will meet with subscribers.

The present part contains the following articles:—Electricity, Animal, continued, by Dr. Coldstream—Endosmose by Dr. Dutrochet—Entozoa, by R. Owen, Esq.—Erectile Tissue, by Dr. Hart—Excretion, by Dr. Alison—Extremity, by Dr. Todd—Eye by Dr. Jacob.

The most prominent articles are Entozoa, Excretion, and Eye.

Mr. Owen's account of the Entozoa is not unworthy of his scientific reputation. It is rich both in description and in illustrations, wood-cuts being profusely scattered through its columns.

Excretion, like all Dr. Alison's physiological essays, is a judicious compilation. The Doctor tells us all that is known in an agreeable manner, and, interspersed with the facts which his industry has collected, are sensible, and not unfrequently, ingenious remarks.

Eye, by Dr. Jacob, is what might be expected from the discoverer of a membrane in that minute, but elaborate organ. The descriptions are accurate, the information brought down, or rather up, to a late level, the language intelligible and clear.

The part before us has not at all deteriorated. It is worthy of most of its predecessors, no trivial encomium. The work, when entire, will be amongst the most valuable of the day, and, even so far as it has gone, it should be possessed by every lover of anatomy.

II. ANATOMIE DU SYSTEME DENTAIRE CONSIDERE'E DANS L'HOMME ET LES ANIMAUX. Par Ph. Fr. BLANDIN, &c. &c. Baillié Paris.

This is a good work, and we shall notice it fully in connexion with other works upon the teeth, in our next number.

III. NOUVELLES RECHERCHES SUR LA STRUCTURE DE LA PEAU. Par M. G. BRESCHET, &c. &c. Baillié, Paris.

This work, also, will be analysed in our next. In the interim, we recommend it to our readers.

IV. LEÇONS D'ANATOMIE COMPARE'E DE GEORGES CUVIER. Seconde Edition. Crochard et Cie. Paris.

Tome Premier contenant les Généralités et les Organes du Mouvement des Animaux Vertébrés.

Tome Quatrième—Première Partie, contenant les Organes de Mastioation, d'Insalivation et de Deglutition des Animaux Vertébrés.

Tome Quatrième—Deuxième Partie, contenant la Suite de l'Appareil de Chylification des Animaux Vertébrés.

This second edition of the Leçons of Cuvier is now in process of publication, and we recommend all who are anxious to possess the lectures of that immortal man to purchase it. The information in it is brought to the existing level by his pupils. It is a great work and should be in every well-stocked library.

V. ANATOMIE DESCRIPTIVE. Par J. Cruveilhier. Quatre Tomes. 8vo. Paris—Bechet Jeune.

Of all systems of human descriptive anatomy, this must be deemed not only the latest but the best. It is superior to Cloquet's, which, until it appeared, was the "codex," of late years, in this country. Why does not a translation of it appear? There will be one we are confident. The success of Knox's Cloquet, will be encouragement enough to any translator.

When we look on the preceding list, and it might be readily augmented, we see every reason for delight at the progress of scientific anatomy. The mode of studying, of describing, of viewing, and of teaching this science of facts, itself the basis of all science in medicine, has improved, is improving, and will no doubt, continue to improve.

RECENT ANATOMICAL PLATES.

1. *Quain's Plates.*

These have lately been occupied with the Veins, and are now devoted to the Absorbents. They have greatly advanced in point of distinctness of execution since their commencement.—We would again press on their editor the necessity for making them *complete*. It will be wiser and better to publish twenty extra numbers, than to leave the “system” imperfect. When the work is finished, we anticipate a good sale for it. Purchasers now hang back from the dread of its not being eventually completed.

2. *The Plates of Bourguery.*

These are, in general, magnificent. But unfortunately, the irregularity in their appearance and in their *mode* of publication is such, as materially to detract from their marketable value. One system is begun, abandoned before it is half completed, and another system is commenced, to be treated in the same manner.

Yet with all these drawbacks, the Plates of Bourguery will form an æra in anatomy, or, at all events, in anatomical engraving, and it could be wished that their price would put them within the reach of the majority of medical men. That is out of the question, for the work, when finished, will have cost between thirty and forty guineas.

said to be neglected in this country nor in France. The lectures and the works of Alibert and of Rayer in the latter, the works of William and Bateman, the translation of Rayer, and the new editions of Plümbe's and of Green's books here, shew that the interest of the Profession and of the public has been fully awakened in reference to these disorders.

It is only a short time since the labours of the continental pathologists were neglected and undervalued in this country. Then we were constantly endeavouring to overcome the apathy, and to dispel the prejudices of the profession. Now we may remark something like the opposite extreme, and it is rather necessary to check than to encourage this tendency to look for all excellence abroad.

We are essentially a more practical people than our neighbours. The genius of our institutions has thrown men on their individual energies and exertions for success, and that habit of thought and action has been generated which looks always to positive and tangible results. On the Continent it has been otherwise. The more or less absolute character of the governments has based its policy on centralisation, and the repression of individual enterprise, and the national character has taken, both in politics and science, such a tone as might be expected from such a system. The visionary German and ingenious Frenchman display in a remarkable degree the want of that spirit of utilitarianism, which distinguishes the English character.

We would urge our readers not to imitate this disposition to abstraction and refinement, which the works of the continental pathologists present. We would urge them to form their tastes at home, and to look to our neighbours rather as an example of what an assiduous cultivation of pathology may effect, than as models of what physicians and surgeons should be. We have seen a good deal of those who have studied much abroad, and of those who are plunged over head and ears in foreign reading. With scarcely an exception, they have been ill adapted for

RECENT WORKS ON DISEASES OF THE SKIN.

- I. A PRACTICAL TREATISE ON DISEASES OF THE SKIN, &c. By SAMUEL PLUMBE, &c. Fourth Edition Revised, Corrected, considerably Enlarged, and with Additional Engravings. 8vo. pp. 607. London 1837.
- II. A PRACTICAL COMPENDIUM OF THE DISEASES OF THE SKIN, &c. By JONATHAN GREEN, M.D. &c. Second Edition, Corrected and Improved, with Two Illustrative Plates.

Diseases of the skin cannot now be

success in practice in England. They have usually been more *au fait* at examining the dead than at curing the living.

Mr. Plumbe, we regret to add the late Mr. Plumbe, remarks in the Preface to the fourth edition of his book:

"The fact is unquestionable that our countryman Willan led the way in opening this part of the science to the world. His recorded facts and his published illustrations being of origin and date antecedent to that of the French school by several years. There have been numerous English contributors too, to the fund of information on these subjects; and it is not a day of triumph to English practitioners when, in the study of these diseases, they are expected to peruse the works of continental authors in preference to those of their countrymen, under an unfounded assumption that they are more valuable and instructive than those of the latter.

There are two curious points of evidence affecting this question.

First, there has been for years, in a work published in the French capital, purporting to be largely occupied by descriptions of its public institutions, an uncontradicted statement, that though the hospital of St. Louis is dedicated to the reception and treatment of cutaneous diseases, furnished with baths and 'all appliances and means to boot,' yet the treatment adopted there is not found more successful than that adopted elsewhere under less favourable circumstances. Secondly, in that very institution, the treatment of a very large portion is surrendered by the physicians and surgeons into the hands of secret *nostrum-mongers*."

He observes too, and we think with some degree of justice, that:—

"There is commonly a wide difference between the delineations and descriptions of French and English authors on this class of diseases. As regards the delineations, either of Alibert or Rayer, if attentively examined, the utmost liberality must be exercised to enable us to admit them to be representations of individual diseases as occurring here and known by the same

names, doubtless both these authors have strongly, if not faithfully, performed their tasks in this respect; but the delineations often appear to an Englishman to amount to caricatures, and the descriptions to abound with exaggerations.

That both may be correct, as regards the cases which come under the French practitioner's eye, it is far from my intention to deny, or even to doubt. It must be considered that the individual portraits are, for the most part, drawn from the persons of the lowest and poorest of the French population,—a class of people so poor and so badly fed in the main as would lead us, *a priori*, to expect a greatly aggravated form of those diseases among them. A slight examination of the extensive and clever illustrations of these authors will convince the reader of the correctness of my observations on this point; and really the descriptions are still more widely separated from the reality, as the diseases are seen in England, than the illustrations themselves."

Mr. Plumbe has made many additions to the work. The anatomy and physiology of the skin have been illustrated by the late researches of Breschet, two new figures have been added, and much has been quoted from Rayer. Altogether Mr. Plumbe's work, though not one of the first order in a scientific point of view, is, perhaps, better adapted for general perusal and for students, than the voluminous and prolix tome of Rayer.

Of Mr. Green's book it is not necessary to say much. The additions are not considerable—and the chief object is to urge the use of baths. They are highly valuable adjuncts to treatment, no doubt, and Dr. Green's sense of their utility is probably not diminished by his being a proprietor of them.

"I have been taken to task" says he "by some of my reviewers for not entering more into detail relative to these remedial means; suffice it to say, that in 1822, at the Hospital of St. Louis alone, at Paris, 127,752 of these baths were administered. In 1833, the number had increased to upwards of 150,000 in the year. In 1834 and 1835, upwards of 180,000 were administered each year.

In November, 1836, I was informed the numbers would be about the same, as the baths were always full; and of sixty-two patients whom I saw present themselves to the Baron Alibert, one morning, for consultation, only seven were prescribed for, exclusive of one or other of these baths as part of the treatment.

These numbers may surprise the reader, and the surprise will be increased when he considers that these baths are erected at the other hospitals, prisons, and poor-houses throughout Paris, where they are continually taken, not only as curative of disease, but as preservative of health.

In this country, it is true, no such opinion of the worth of vapour and fumigating baths at present exists among the members of the medical profession; yet I should imagine that the time was not far distant when their utility will be generally acknowledged; and in confirmation of this idea, I may say that I have lately superintended their erection at three of our metropolitan hospitals."

This is quite true, and the use of baths cannot be dispensed with by those who would attempt to treat eruptive disorders.

AN ADDRESS DELIVERED TO THE MEMBERS OF THE WORCESTERSHIRE NATURAL HISTORY SOCIETY, ON THE OPENING OF THE WORCESTERSHIRE MUSEUM, September 15, 1836. By CHARLES HASTINGS, M.D. &c. 8vo. Stitched. pp. 57.

Those who know Dr. Hastings best, would form the highest expectations of the eloquence, the enthusiasm, and the honourable feeling, of any address delivered by him to an association of scientific men. Such anticipations are amply realised in the Address before us. Its title so fully displays its objects that it is not necessary for us to insist on them, and all that we need do is to extract one or two passages which bear on points deserving of attention.

1. *Necessity of Scientific Associations in England.*

"There is also in the peculiar circumstances of England an additional motive for the formation of societies for the advancement of the study of nature. There is no civilized country in Europe of which the government has shewn so great an indifference with respect to the progress of science as that of Great Britain. Even in far less civilized and enlightened ages than the present, patronage was extended to science by the sovereigns of Europe; but it is a fact much to be regretted, that in this country, where, owing to our commercial and maritime affairs being on so extensive and vast a scale, its cultivation is of more importance than in any other European state, our Government has been supine on this subject, and little national encouragement has been given to those who have made important discoveries in it. Of all the countries of Europe, France is undoubtedly the one in which the scientific establishments have been conducted on the most enlightened and liberal principles, and in which science is most successfully cultivated. This high distinction she owes to the formation of the Institute at the close of the last century and to which upwards of £100,000 is annually paid by the French Government. Owing to this circumstance many members of the Institute are in opulent circumstances, and can, without anxiety and in calm seclusion, pursue their scientific inquiries; or, if they desire to be distinguished in public life, all the honours of the State are open to philosophers and literary characters. The sage and the hero deliberate in the same cabinet; they are associated among the privy councillors of the king; they sit together in her house of peers and in her chamber of deputies; they bear the same titles, they are decorated with the same orders; and the arm and the mind of the nation are thus indissolubly united for its glory and for its defence."

What can be more eloquent, alas, what can be more true, than the preceding statements? Look at England and France in their respective encour-

agement of abstract science and philosophy, and blush for our own land. The evil is a crying one, and we hope that ere long it will work its remedy. This is a subject which deserves more than a paragraph, and which we shall dwell on more at large hereafter. The attention of the Legislature and of Government should be called to it.

2. *Labours and Objects of the Worcestershire Natural History Society.*

"It is now three years since the Worcestershire Natural History Society was instituted; and it has received during that period most encouraging support from all classes of the inhabitants. In order to secure the particular investigation of the several branches of the natural history of the county, it was determined at the commencement of the undertaking to divide the Society into sections; and in furtherance of these views, committees have been appointed each year on Statistics, Zoology, Botany, Geology, Mineralogy, and Meteorology. The labours of these committees have been very useful in collecting together valuable information, which otherwise would not have been brought forward."

The nucleus of a library is formed—a museum is commenced—some zeal has been kindled—and such addresses as this of Dr. Hastings will undoubtedly kindle more.

3. Dr. Hastings most ably points out the advantages likely to follow a more general acquaintance with natural history. He touches with a master's hand the lives of the great men who have travelled in its regions, and he particularly dwells on the works of the immortal Cuvier. All that we can extract is this slight tribute to the memory of that great man.

"The grave has now closed upon Cuvier, and his voice is no more heard among men, but he yet speaks through his writings, which will long continue to be regarded as striking specimens of what a devoted zeal for science, when directed by superior intellectual endowments, can effect in the advancement of useful knowledge. In every part of the civilized world the name of Cuvier

is revered, and this great man are animated by similar following up the investigations he had begun, are continuing fresh additions to the 'Temple of Science.'"

AN EXAMINATION OF PHRENOLOGY; IN TWO LECTURES, DELIVERED TO THE STUDENTS OF THE COLUMBIAN COLLEGE DISTRICT OF COLUMBIA, FEB. 1837. By THOMAS SEWALL, M.D. Professor of Anatomy and Physiology 8vo. pp. 67. Washington, 1837.

Dr. Sewall is evidently a well informed, and, as evidently, a well intentioned man. He examines phrenology with no malice prepense, with no spirit of dogmatism, with no wish to bully. If he disputes the conclusions with the phrenologists, he does so after arguing the question with them, and the grounds of his dissent, as well as the process of reasoning which leads to it, are openly exposed. Yet withal there is some dry humour in the doctor. He observes for example:—

"The ground which phrenologists assume the right to occupy is so extensive, and the outlets for retreat are so numerous, that it is difficult to present an objection to the science, which cannot, upon the common principles of reasoning, be plausibly evaded. A few examples will illustrate the idea which I wish to convey.

If an individual has a large head, and his mental manifestations unusually powerful, the case is brought forward as a proof of the truth of phrenology; but if the manifestations are feeble, it is said that the great size of the head is the result of disease, or that the brain is not well organized, or that other circumstances have exerted an influence in diminishing its power. If a small head is connected with a powerful intellect, it only proves that the brain though small, is well organized, and acts with uncommon energy. If an individual has a particular propensity strongly marked in his character, and

In *N* is no corresponding development of the brain, it is said that the organ has not been thrown out by indulging its desires; but if there is a large development of an organ, and no corresponding propensity, then it is contended that the germ of the propensity is there, but that it has been repressed by education, or other circumstances; or it is found that some counteracting organ is fully developed which neutralizes the first."

After remarking that temperament is thrown into the scale by the phrenologists, he proceeds:—

"When all these fail, in furnishing a satisfactory explanation, another method still more amusing is sometimes resorted to, in relieving phrenology from embarrassment. It may be illustrated by the following facts:—

There is a celebrated divine now living, in Scotland, equally distinguished for his amiable disposition, his gigantic powers of mind, and the great moral influence which he exerts upon the Christian world. This individual, it is said, has the organ of destructiveness very largely developed; and not having

any counteracting organ very large, it is contended by those who are acquainted with the fact, that he manifests his inherent disposition to murder, by his mighty efforts to destroy vice and break down systems of error. In this way he gratifies his propensity to shed blood.

By a recent examination of the skull of the celebrated infidel Voltaire, it is found that he had the organ of veneration developed to a very extraordinary degree. For him it is urged, that his veneration for the Deity was so great, his sensibility upon the subject of devotion so exquisite, that he became shocked and disgusted with the irreverence of even the most devout Christians, and that out of pure respect and veneration for the Deity, he attempted to exterminate the Christian religion from the earth."

He examines the doctrine in detail, and the conclusion to which he comes, is decidedly opposed to Phrenology.—But the phrenologists are both able and willing to take up the cudgels for themselves.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS, AND NOTICES OF BRITISH MEDICAL LITERATURE.

SINGULAR CASE OF PERIODICAL MONOMANIA, TERMINATING IN SUICIDE, WITH THE APPEARANCES ON DISSECTION. By JAMES JOHNSON; M.D.

I THINK I may venture to assert that there is not a more remarkable—perhaps a more interesting case in the annals of medicine, than the following.

Mr. M'Kerrell, aged about 56 or 7, had spent nearly thirty years in the civil service of the East India Company, and had risen to a high rank on the Madras establishment. He returned home about six or seven years ago, with an ample fortune. He was a gentleman of highly cultivated mind, and great natural abilities. He had suffered some severe attacks of fever in India; but arrived in his native land with a comparatively sound constitution. He had made some excursions to the Continent, more for amusement than health, and, about four years previous to his death, had sustained an unsuccessful contest for the representation of Paisley. In this contest he went through an immense exertion of body, and excitement of mind. He dated his chief bodily and mental afflictions from this period. His digestive organs became considerably deranged, and constipation of the bowels was a prominent feature of the malady, up to the very day of his death—which was occasioned by his own act. Very soon after the contest alluded to, he came under my care, and continued to consult me, with longer or shorter intervals, till the final and melancholy termination of his existence. At first, his corporeal ailments were alone referred to—and these were the common symptoms described by the generality of dyspeptics. There was an appearance in his manner, however, which led me to suspect some grievance kept in the back ground. The patient, being a man of great intelligence and knowledge of the world, he frequently detained me in conversations and discussions quite foreign to the objects of my visit, and dismissed

me without even entering upon them at all. One day, he appeared more than usually depressed, and, after some ordinary conversation, he remarked that he thought me a man in whom he could confide, and who would not divulge a secret, if a pledge of secrecy were given. I observed, a little jocularly, that doctors were like priests, and confessions were held as secret by the physicians of the body as of the mind. But I observed, at the same time, that I had no wish or curiosity to become acquainted with secrets unconnected with my professional avocations. That said, he, I believe; “but this is a secret directly connected with my health and happiness; and I think its disclosure to a man of honour, and professional experience, might probably enable him to relieve me. But I had rather suffer the miseries which I endure, than confide the cause of them to a physician who would divulge it.” In that case, I readily pledged myself to secrecy, provided there was nothing in the secret of a criminal nature, and which the laws of God or man did not call upon me to make known, if necessary. He answered, “if you find in this secret any thing criminal, I absolve you from your promise.” I then pledged myself.

It was with great difficulty, and tedious circumlocution that he came to the point, being apparently tortured with shame in the disclosure. At length it came out that he laboured under an illusion, which came on regularly every second day, and lasted till he went to sleep. He would awake the next morning free from the hallucination, and perfectly convinced that it was an illusion under which he had laboured on the preceding day. At a later period, he often assured me that he was conscious of the illusion *being such*, and not a reality, on the days of its occurrence, though I have strong reason to suspect this statement, for, up to the day of his death, he never would see me on the day of the illusion. The illusion itself let in no light on the

nature of the complaint, and therefore the secret may be kept, without any detriment to the history of this extraordinary case. Unfortunately the entity in which it consisted, presented itself so frequently, and was mixed up with so many other objects and subjects, that he could not walk a street without seeing it, unless he kept his eyes shut—he could scarcely read a page of a book without its crossing his sight—he could hardly, indeed, survey the furniture and other things in his room, without being reminded of this torturing illusion: His sufferings were of two kinds: One, directly connected with the illusion itself, which, according to his conviction, on alternate days, exercised a hostile influence on him, and was, as it were, an evil star, blasting every thing belonging to him by its malign radiation! The other, was an indescribable horror, terror, or sense of destruction, having no direct reference to the illusion, and a degree of which continued after the delusion vanished, that is to say, during the “good days.” This was the part of the complaint which appeared, both to the patient and the physician, as purely corporeal, the result of some disordered function or structure of the body. The illusion, on the other hand, had greater reference to the mental functions, though probably they were both the result of the same cause.

I made numerous and minute examinations of the state of the general health, without being able to detect any palpable cause for these strange phenomena. In respect to the head, this gentleman was highly gifted in intellectual powers, and his mind amply stored with varied and extensive information. He never displayed the slightest aberration, or even weakness of mind, except as regarded the hallucination—and even *that* he regarded in its true light, when the mental cloud had passed away. There was no physical symptom of any cerebral or spinal affection. The senses and sensibility were perfect—as were all the muscular powers. He was, however, emaciated and the emaciation gradually, though slowly increased.

I frequently examined the chest, and

it sounded well, in all parts—the patient could expand it freely—and he could take great exercise without any shortness of breath. He had no cough. The pulse was remarkably small, and generally slow. I confess that, at no period of my professional attendance, which lasted three years and a half, did I suspect any disease of the heart or lungs, though in both cases, I was mistaken, as the final event proved.

In respect to the abdominal viscera, there were many symptoms of disordered digestion, but none of organic disease. He ate two meals of animal food daily, the aggregate being considerably more than a man in health, and using but moderate exercise, would naturally consume. The patient found it necessary to confine himself almost entirely to plain animal food, with bread, and very little wine, or weak brandy and water. Any deviation from this system occasioned considerable inconvenience, both as to the common symptoms of indigestion, and also as respected the main and paramount malady. The constipation of bowels, as before remarked, was very obstinate, and the fæces were generally in the form of scybala, even when aperients were employed. All strong or drastic purgatives aggravated his complaints. The functions of the kidneys were very rarely disturbed. Thus, then, repeated examinations of the various organs, through the medium of their functions, disclosed to me no tangible or cognizable proof of structural disease. Yet such disease did actually exist, however humiliating may be the confession. This does not militate against the science of medicine, but only against my own powers of discrimination.

The regular, the unerring periodicity of the main symptoms puzzled me not a little; and this periodicity I could not help attributing to some physical, rather than to a moral cause. What tended to embarrass me still more was the fact that, on the “good day,” he could view the *ENTITY*, whether simple, or in any of its combinations, with composure, while on the “bad day,” or the day on which the illusion was in the ascendant, the sufferings which this unfortunate, and highly-gifted indivi-

dual experienced, were such, that the narration of them often rendered me, as it were, a participator of his miseries, and deprived me of sleep. I can conscientiously say that I heartily repented of being the depository of the secret, and the physician of the patient.

I had ample reason to believe that he frequently sent for me, without any intention of making use of my prescriptions: but merely to hold a conversation, or rather disputation respecting his malady. His leading questions were generally whether or not an illusion of the mind could exist, independently of bodily disorder; which I always answered in the negative. One day he asked me directly, and requested a candid and unequivocal answer, whether I did not consider the illusion under which he laboured on alternate days, as a species of INSANITY? I told him that certainly it came nearer to MONOMANIA, or delusion on one particular subject, than to any other affection to which I could give a name.—After a short pause, during which considerable emotion was visible in his countenance, he remarked that I was perfectly right—and though he was exceedingly anxious to conceal his infirmity from the world, he could no longer conceal it from himself, especially as it was confirmed by me. He then, and often afterwards, observed that, when the human mind lost its poise, even on a single point, life was no longer worth preserving. He then, too, and many times subsequently, said that his mental and corporeal sufferings were such as would drive many a man to commit suicide; but that he entertained too high a religious and moral sense to destroy his own life.

One day he asked me, could a man be considered insane who was conscious that he was so? This was a puzzling question! I replied that certainly one strong feature of insanity was a firm belief, in the mind of the insane individual, that he himself was of sound mind. But I remarked that it was exceedingly difficult to form an unexceptionable definition of any disease, and more especially of insanity—and that probably the present instance might prove an exception to the general rule.

I then put this home-question to him. Do you believe that you labour under monomania, or delusion on one particular subject, during the time the illusion exists;—in other words, on the “bad day?” After some hesitation, he replied that, for a long time, the illusion appeared to him to be a reality, during its domination, and the suspicion of monomania had not then entered his mind; but that, at present, he believed the illusion to be such, even when under its influence, which influence he could no more resist than he could prevent the clouds from passing over Regent-street. The same, he observed, was the case respecting his belief in the existence of monomania on the bad days:—*he did believe even on the days of the illusion, that he laboured under partial insanity.* This then, would appear to decide the question. But there is a link in the chain defective. He never gave me the opportunity of verifying this declaration, either as to the belief in the non-reality of the illusion, or the reality of the monomania, on the “BAD DAY.” This is, in my opinion, a very important defect; and excites in my mind, a strong suspicion that, during the day of the illusion, he believed in its reality, and disbelieved his own aberration. When the hallucination was over, it is not at all improbable that his powerful intellect might come to the conclusion that, during the preceding day, his reason was obscured by the illusory phantom which had so long embittered his life.

Since the melancholy issue of the case, I have learnt from his nearest relatives, that the regularity of his periodical attacks was well known to them: so much so that, when any letter was despatched to him, they consulted the almanac, in order that it might arrive on the good day. A mistake was once made in the calculation, and very serious consequences were the result.—His friends knew nothing of the mental illusion, but only that he laboured under a periodical disorder of body which indisposed him for any business. I say *indisposed* as contradistinguished from the term *incapacitated*; for it is my firm conviction now, as it was all along, that, upon every point not di-

rectly connected with his illusion, his reasoning powers were as perfect and clear as at any period of his life: Of this, at least, I am certain, as far as the good days were concerned; and I believe that the same applied to the days of the illusion. Still I can only offer this as my belief. The integrity of his intellect on the "good days," was a matter of knowledge.

In the Spring of 1835, I saw him frequently, and he appeared rather worse than usual, there being now an additional source of misery—evidently a dread of the world's coming to a knowledge of the illusion and its cause—*MONOMANIA*—I firmly believe that this fear was so strong, that some of the last acts of his life, and especially the letter to his landlady, announcing his determination to commit suicide, were done with a firmness and coolness which might lead the jury to bring in a verdict of *felo de se*, instead of lunacy. So well-informed a man as he was, could hardly be ignorant that by such a verdict, his property would be forfeited to the Crown; but this turned not the scale, when placed against the disclosure of an infirmity of mind, which the unfortunate gentleman wished so much to conceal.

In this place, it may be properly enquired whether the gentleman in question was a proper object for restraint. As far as I was concerned, I conceive that I had not the slightest cause or right to attempt any privation of his liberty. He never hinted the slightest intention to commit suicide—but the contrary: and the delusion under which he laboured, affected no man's interest but only his own happiness. Why then should he be confined? Besides it requires the testimony of two medical men to deprive a man of his liberty—and in this case, there was only one privy to the illusion, nor was it possible for any other medical man to become acquainted with it, by his own personal knowledge. Had it been proper or prudent, therefore, to confine this gentleman, it could not have been done legally. He once wrote a letter to a relation, announcing his intention of committing suicide, in the same form as his last letter was written to his

landlady. He did not then put the threat into execution. But even this announcement of his intention to commit such an act, did not authorise restriction. The law does not say that suicide itself is a necessary proof of insanity; else why do we see the verdict of *FELO-DE-SE* occasionally brought in? And if the committal of the crime be no legal proof of insanity; the mere threat of it would be still less so. I have alluded to this question, because it was agitated in the course of the inquest, and also because some of the periodical prints (the *ATLAS* for example) have quoted the case as elucidating the distinction which Dr. Mayo has drawn between *moral* and *mental* insanity. I think that neither law nor justice would have sanctioned the coercion of the individual in question, without establishing a principle that would be most dangerous and tyrannical in its nature and operation.

But to return to the history of this memorable case. In the early part of the year 1834, while in Scotland, Mr. M'Kerrell was suddenly seized with hæmoptysis, though not to any extent—and some of the most respectable medical practitioners of Edinburgh were consulted. I may mention Dr. Abercrombie, the late Mr. Turner, and Mr. Scott. The complaint subsided without any serious consequences; though there were a few very insignificant returns of it afterwards, for which I attended the patient in the succeeding year—1835. The occurrence, however, deserves commemoration, as will be acknowledged in the sequel. As a singular feature in this case, I may observe that the patient was exceedingly alarmed and anxious, on account of a slight return of this hæmorrhage, and that at a time (the Spring of 1835) when he was meditating suicide. On carefully examining the chest with the stethoscope, and assuring the patient that there was no danger whatever, he seemed cheered up, and in good spirits. It was just about this period that he wrote to a near relation, that he was about to destroy his own life! It was at this time also, that I strongly urged him to go up the Rhine, in company with a medical attendant, and spend

three or four months among the Alps. He seemed determined to adopt this suggestion; but greatly regretted that I had not made this proposal in the Autumn of the preceding year, when he could have travelled with myself and family, in the same direction.

And now I suddenly lost sight of him, and knew not whither he had directed his steps. On the 15th of November I was summoned to him, and found him considerably altered in appearance. Although it was the "good day," he was evidently labouring under great mental depression and distress. He stated that he had been some time at Cheltenham, and had consulted an old and valued friend, who prescribed for him, but in vain, as his mental and corporeal miseries were now arrived at a degree of intensity which human patience could not long bear, nor human strength resist. He had got much thinner, and complained that some aperient medicines which he had been taking at Cheltenham, increased rather than diminished his sufferings. This, however, was probably imaginary.—From his friend at Cheltenham I learnt the following particulars.

"I had long known Mr. M'Kerrell in India, and think that much of his physical infirmity arose from uter neglect of his bowels. He would sit long in his office at Madras, or take home his public papers, and pore over them late and early, scarcely allowing himself any exercise, and what little he did take, was in solitary rides or rambles. He perspired most profusely, and constipation went to a great extent. Another of his friends and myself invited him to Cheltenham, for change of air and scene. He visited me first on the 20th of September, giving me a long history of his troubles and sufferings. He remained here till the 11th of November, having suddenly, on the 9th, taken his place for London; but repenting him of the act, changed his mind, and forfeited his fare. Again, on the 11th, he took his place in a morning coach—forfeited his fare a second time—and went up to town by the night coach. During one week of his stay here, he had a gleam of hope that his health would be re-established,

and was only one day in bed that week. In the next week, his gloom came over him, and he did not leave his bed for three days. All this time, however, his desire for food was more than natural, and he never, even on his bad days, ate less than from two to *three mutton chops at breakfast, and a large meal of animal food to dinner*. I occasionally passed an hour with him, *on his bad days*, when he evinced an unnatural degree of calmness—always expressing himself as tired of life, and only restrained from suicide by the fear of God's wrath.*

It will be remarked in the above statement, that to his medical attendants (myself excepted) he would give access on the bad days. To me, who was acquainted with the illusion, he would never give an audience at such times. This is very strange.

The remainder of the tragic scene is well known to the public. When I parted from him on the 15th of November, being his "good day," though a very wretched one, he desired me to call again on the 25th of the same month, which would also be his "good day." On Tuesday, the 24th, however, being the day of the illusion, he wrote a short letter to Mrs. Vickery, his landlady, announcing his determination to commit suicide, and giving her some directions about his keys, and the place of his sepulchre. He rang the bell about four o'clock, and ordered a wine-glass. At a quarter before seven o'clock, he was found lying on the floor dead, and nearly cold—with an empty two-ounce phial labelled "hydro-

* Mr. M'Kerrell himself frequently acknowledged to me, that before his return from India, he laboured under a periodical affection, of which he could give no accurate description, except that he felt alternately (but not very regularly) ill and well on particular days. His spirits were depressed, even then, on the bad days. I learnt from a lady who came home in the same ship with him, that she distinctly recognized the good and bad days, by his conduct and appearance at table, as he always sat next her.

cyanic acid," of Scheele's strength, on the table, standing beside the empty wine-glass. In the bottle, there was a drop or two of the acid, exhaling the odour of almonds!

An inquest was held the next day, before Mr. Gell, and twenty respectable jurors. I stated as much of the foregoing narrative as I thought necessary for the ends of justice, and repeated twice or thrice over, that the suicide was committed *on the day of the illusion*, as proved by my visiting-book, which I produced in court. Having retired, after giving my evidence, the coroner, labouring under the most unaccountable misapprehension, represented to the jury that, according to my evidence, the suicide was committed on the "good day," or the day on which the deceased was free from illusion!! I do not accuse the coroner of wilful misrepresentation of my evidence—but still the *misrepresentation* was not the less real—nor the *misdirection* to the jury. Had the whole, or even a majority of the jurors, been guided or influenced by the charge of the coroner, the consequences might have been most disastrous—the forfeiture of a large fortune to the Crown—and the affixation of an indelible stigma on the moral and religious character of an unfortunate sufferer from mental and corporeal disorder! Fortunately for justice and humanity, the testimony of the physician outweighed the judicial authority of the lawyer, and fifteen out of twenty of the jurors brought in a verdict of "temporary insanity," instead of *FELONY*. I stated in the public papers, at the time, this misdirection of the coroner, and he has not thought proper to impugn the statement—for the best of reasons—because he could not.

Dissection, 27 hours after Death.

The body was examined by Mr. Henry Johnson (my son), and Mr. Bushel, in presence of Dr. Robert Lee, Mr. Harding, and myself.

The emaciation was very great. The deceased having fallen on his face, there were marks of contusion about the temple, and the face itself was

rather of a bluish hue.* The body exhaled an odour of Prussic acid. The eye did not present any particular appearance. The stomach was remarkably capacious, and its contents were sent to Dr. Turner, for analysis. In some portions of the mucous membrane of this organ, especially near the upper and inferior orifices, there were marks of recent inflammation, particularly in stellated patches, where slight marks of extravasation were perceptible. In several portions of the small intestines the external hue was dark, almost approaching to livid—and the mucous membrane of these portions was vividly red, or of a dark red colour; but without extravasation, or perceptible injection of the vessels. It resembled imbibition, or that which would be produced by steeping sound, yet dead parts, in blood. The large intestines were greatly distended by air, but exhibited no marks of disease of any kind.

The liver, spleen, mesentery, kidneys, and all the abdominal viscera were perfectly sound.

Before a knife was laid on the body, I expressed a wish that the ganglionic centres might be carefully examined, as I conceived that some irritation of the nerves of organic life played an important part in the phenomena exhibited by the patient. The solar plexus was therefore minutely investigated; but nothing abnormal was perceptible.

In the thorax there was great and varied disease. The lungs were studded with tubercles, especially the superior lobes, and extensive adhesions existed between the pleuræ-costales and the

* I was informed by Dr. Watson, the intelligent physician of the Middlesex Hospital, that, in two cases of poisoning by Prussic acid, the face exhibited an appearance very similar to that of scarlatina. The circumstances attendant on the present case (the falling on his face, and the contusions about the head), would probably have prevented the phenomenon observed by Dr. Watson.

p. pulmonales. None of the tubercles had broken down, so as to discharge their contents through the bronchial tubes.

The heart was not larger than natural—or very little more than the ordinary size; but the pericardium was universally adherent, by old, that is to say, by cellular attachments. The organ itself presented one of the finest specimens of “simple hypertrophy,” which we have ever seen. The parietes of the left ventricle were an inch and a quarter in thickness; and the cavity was, with difficulty, discovered. It could not have contained more than four drachms of blood, if so much; which is scarcely one-third of that which a normal left ventricle would be capable of throwing out at each contraction.* There was nothing abnormal in the arteries. The blood in every part of the body was perfectly fluid, and exhibited not a single coagulum in any vessel.

The brain was remarkably firm, and the vessels were rather congested; but there was no visible trace of disease in the head. The skull was of unusual thickness and density.

And now comes the most remarkable portion of the pathology. Upon the nervus vagus, or pneumo-gastric nerve of the left side, just before the recurrent is given off, there was affixed a hard jagged body, the size of a kidney-bean, or small nut, composed of calcareous matter, and probably a diseased bronchial gland converted into this substance. The union of the nerve and this rugged mass was so intimate, that no dissection, without cutting the nerve or the calcareous body itself, could separate them. The foreign body, in fact, had penetrated, or at least invaded the nerve, which was thickened at this part. Lower down, and involving the cardiac, pulmonic, and œsophageal plexuses in a labyrinth of perplexity, were several diseased bronchial glands, rendering the dissection a tedious and dif-

ficult operation. The parts were all carefully removed, and the investigation conducted slowly, and at different periods, in the Kinnerton-street Theatre of Anatomy, by Mr. Johnson, Mr. Tatum, Mr. C. Johnson, and others. The preparation is preserved in the museum, and maybe seen by any gentleman there.

When we consider that the nervus vagus rises in the medulla oblongata, but is chiefly distributed to the great organs *not* under our control—and that it communicates with almost the whole of the ganglionic nerves, we may form some idea of the irritation and disturbance produced in the digestive, sanguiferous, and sanguific organs, by a jagged calcareous mass implanted, as it were, into one of the most important nerves of the great vital viscera! If this pathological phenomenon be held as nought in the production of functional disorder, then I say that we had better lay aside morbid anatomy entirely, and go back to the old Hippocratic practice of watching the symptoms—employing few or no remedies—and recording the death or recovery.

I am well aware that here a very feasible objection may be made to the operation of the pneumogastric irritant, as connected with the phenomena observed during life. The irritating cause was permanent—the effects (if they were effects), were periodical. This objection is, I confess, somewhat startling, at first sight. But let us examine it a little more closely: Do all physical agents produce permanent, or, at least continuous effects?—A man residing in the marshes of Walcheren or other malarious locality, becomes affected with ague. He is every day exposed to new malaria, and yet he is only *every other* day influenced by it.—How is this to be explained? But in the whole class of nervous affections, we find, in practice, a strong disposition to *periodicity*, though the *cause*, as far as we know, is *constantly* applied. Thus tic douloureux, tooth-ache—and the extensive tribe of neuralgic pains, are all, more or less prone to shew themselves periodically, although we have not the slightest proof that their causes are only periodically in operation. We

* A section of the ventricle was seen in the Kinnerton Street School of Anatomy by many medical gentlemen.

known that visceral diseases will keep up affections of a periodical type, long after the individual is withdrawn from the sphere of the original cause. This was witnessed on a large scale, ever since the fatal expedition to Walcheren: and it is familiar to all those who have practised in malarious countries.

In the present melancholy case, there was ample visceral disease to produce hypochondriasis, monomania, or insanity, in an individual predisposed to such affections. It is curious that the majority of the organs to which the pneumogastric nerve distributes its influence, were changed in structure, or disordered in function. The state of the heart must have had a great share in deranging the general health, and probably accounts for the excessive emaciation, although large quantities of animal food were daily consumed. The heart could not circulate more than one third the usual quantity of blood through the lungs and the body generally. This must have produced a deficient sanguification in the pulmonary apparatus, whatever was the amount of digestion and chyliification. The functions of the stomach were remarkably deranged. Indeed this unhappy man laboured under a kind of bulimia. Diseases of the heart are very apt to affect the mental functions through the instrumentality of the brain; and upon a careful consideration of the whole case, I think I am authorized to conclude that, the mental functions, as manifested by their material organ, the brain, were disturbed by the physical changes found on dissection, and that the monomania in this instance, as probably in most others, was dependent on corporeal rather than on moral causes.

The publicity given to this case by the inquest has led to several communications disclosing other cases more or less similar, three of which are now living. The names and particulars of these cannot here be stated; but one communication deserves particular notice. The communicant is a professional man, and of great experience. He moreover affirms that he has suffered for many years, in his own person, very

nearly in the same way as Mr. M'Kerrell. He has also become acquainted with several other instances of a similar kind. He affirms that, in every case, including his own, there was some consciousness, or at least conviction of GUILT. He does not believe that the *guilt* was always a reality—or that when it did exist, it was of a kind that need have produced such repentance or remorse; but still he maintains that, from a professional (I do not say whether it was medical or clerical), acquaintance "with a vast variety of strange cases of mental dejection, despondency, and misery, there was, in every instance, something, more or less, of moral guilt." He relates the case of a lady who, for forty years before her death, laboured under a state of "black despair," yet never revealed the *cause*—although there was a *cause*—and that connected with a feeling of moral guilt.

There may be some truth in these observations of my veteran correspondent; but my own experience convinces me that for every one instance of remorse or repentance for *real guilt*, leading to monomania, there are fifty *imaginary* ones. In the present case I can solemnly declare that the illusion had nothing to do either with real or imaginary crime.

Early in the present year, a most remarkable case of this nature came under my observation. A gentleman of considerable talent and ingenuity, who had overworked both mind and body in an avocation imposed on him by Government, became affected with a periodical complaint of a most distressing nature. He was brought to me by his own physician residing in the city. The disorder had continued for more than two years. On one day, he had great energy and excitement of mind. Every thing was *couleur de rose*—his affairs were most prosperous—and his family most amiable and obedient. On that night he got very little sleep, the excitement of mind preventing repose. After a short and troubled slumber towards the morning, he awoke to a day of the greatest misery. The whole prospect

of the preceding day was reversed.—Black melancholy or perturbed irritation of mind occupied him. His affairs were all going to ruin, and his family must, inevitably, come to the workhouse—his previous speculations were all on the wrong side—and his family were precipitating his downfall by misconduct!—In this state he was persuaded to make a tour up the Rhine and through Switzerland. The contrast between his good and bad days gradually lessened and while he was using strong exercise among the high Alps, he could scarcely distinguish the one day from the other. On his return to London, the periodical miseries also recurred; and, on examination of his notes, he found that the periodicity never altered his regularity of type—namely, that the bad day was precisely the same as if the chain had never been broken by the excursion.

Although the sombre day presented a number of triste emotions and melancholy ideas, there was one predominant misery which formed the burden of the song. It was of a domestic nature, and need not here be stated. The case was clearly monomania, and I was consulted on the medico-legal point in particular. I was of opinion that the gentleman could not be deprived of his liberty; but fortunately he agreed to give up the management of his affairs to proper persons, and thus prevented the ruin of his family and the publicity of the evil.

Though not at liberty to divulge the exact nature of the illusion, I may fairly illustrate the mode of its operation by *fictitious* ones. Suppose an individual afflicted with bodily disease, became affected, every second day, with the following illusion. The moment the sun appeared above the horizon, a horrible face presented itself in the disk of the luminary, frowning upon the individual, and menacing him with destruction—this spectre being also attended with the most horrible feelings of body and mind, and which no language could describe. This was not the illusion of my patient; but this was the way in which it acted. Suppose, again

that there was a certain colour—say scarlet—the sight of which caused the most dreadful anguish and despair, on alternate days, although the same colour could be viewed, without emotion, on the intermediate days. This was not Mr. M'Kerrell's illusion, but this was the mode of its operation. Suppose the figure 9, or any of its combinations, when presented to the eye, caused the miseries so often mentioned and that only on alternated days. This was *not* the number; but the effects were the same. Now what possible connexion can any of these have with real or even imaginary guilt?

I am informed by a highly respectable medical gentleman in Edinburgh that, at the moment I am drawing up this paper, there is a gentleman at Leamington affected precisely in the same manner as Mr. M'Kerrell was affected. With the illusion itself I am unacquainted. The same communicant informs me that a late eminent veteran professor of medicine, whose name I am not at liberty to mention, laboured under a similar malady for several years before his death.

The chief peculiarity of the case narrated, is its PERIODICITY. But when we consider that, in a great many cases of insanity, there are *lucid intervals*, though not quite regular—and again, that a vast number of bodily diseases are periodical, we have no reason to doubt the truth of the instance which I have detailed, authenticated as it is, by so many different individuals, both in and out of the profession.

Nor is it entirely without a parallel, as to periodicity, in recorded annals. Pinel informs us that, out of 200 maniacs in the Bicêtre, there were 52, whose paroxysms recurred and intermitted at irregular intervals—and six in whom the periods of accession occurred *regularly*. Among the *latter* class was one whose paroxysm returned every year, and lasted for three months, ending regularly towards the middle of Summer. A second was subject to extreme fury during a fortnight every year; being perfectly calm and rational for the remainder of the time. In a third

the disease observed the type of a tertian fever *there being one day of complete intermission*.*

M. Foville mentions the case of a young woman who was periodically insane—each paroxysm and each interval being 14 days.† These instances are not less remarkable than the one which forms the subject of the present paper.

The following case was communicated to me, orally, by my esteemed friend Dr. A. T. Thomson. A couple were to be married, and the nuptial day was fixed. On his way to the bride's house, the bridegroom fell from his horse, and was killed on the spot! The fatal intelligence caused a severe and dangerous illness in the widowed maid. On recovering from this, she became affected with a very singular species of periodical monomania.—Every day, and about the hour of the day when she first received the dreadful intelligence, she fancied that she saw her intended spouse descend from the skies. She was then in a species of extacy, with her eyes rivetted on the Heavens. Presently he appeared to catch her in his arms, and ascend into the air. She was then in a state of violent agitation, amounting almost to convulsions. When at a certain height, she fancied that her earthly frame became too heavy for the spirit that was bearing her away from this globe, and she fell from her lover's grasp. She was then in a kind of swoon, in which she continued for an hour or two, with scarcely a sign of life. The whole paroxysm lasted for some hours, when she became restored to reason. The monomania returned every day at the same hour—and the sequel was not known.

A somewhat similar case was the following. A man who was absent from home, for some time, wrote to his wife that he would return by a certain coach, and at a certain hour. She went to the coach-office to meet

her husband. She there learnt the astounding intelligence that he was killed on the road. She fell into a severe illness, on recovering from which, she became affected with monomania.—She went every day, at the same hour to the coach-office, and after waiting for some time, concluded that her husband was accidentally delayed, and returned home—when the delusion vanished, and she became conscious of her widowhood!

EFFECTS OF SOLITARY CONFINEMENT
ON THE HEALTH OF SOLDIERS IN
HOT CLIMATES. By Assistant Surgeon MALCOLMSON, late Secretary to the Madras Medical Board.

[Letter to Sir. H. Hardinge.]

The author sets out with the confession that he is no advocate for corporal punishment, being satisfied that it is not effective in the prevention of military crime. Yet he cannot shut his eyes to the fact, that the anxiety to avoid the revolting spectacle of flogging is likely to lead to another kind of danger—the substitution of a solitary confinement that is incomparably more cruel at the time, and more, detrimental to health afterwards. Mr. M. has reason to believe that “more real misery has arisen in 12 months from imprisonment in the jails of India, than has been inflicted by corporal punishment in a hundred years.” Here our author adduces some statistical reports shewing that the mortality in prisons varied from 24 to 57 per cent. per annum! Punishment he acknowledges to be necessary, flogging disgraceful, and solitary confinement destructive of health; but he is unable to suggest a substitute for either the one or the other mode. Mr. Brown has a doctrine which, if taken in an unrestricted sense, is rather startling. “There can be no doubt of the truth of the principle, that *no punishment* can be just, or in the eye of God, lawful, which tends to impair the efficiency, injure the health, and shorten the life of the soldier—or which pro-

* On Insanity, p. 13.

† Dict. de Med. Tom. 1. p. 525.

duces any effects that cannot be estimated by the judges when they assign a punishment for an offence." A soldier mutinies, and he demurs to any punishment that may injure his health or shorten his life! Greenacre and Meunier might have urged this doctrine against their sentence, as tending to injure health and shorten life! Johnson defines "punishment" as the infliction of pain or death, as atonement for crime. No infliction of this kind, to be of the least efficient amount, can be otherwise than injurious to health, in a greater or less degree. Nor can the judge always predicate or calculate the effects of corporal punishment.—What may be borne with impunity by one man, may be the death of another. Daily experience shews that the judge or the court-martial cannot estimate the amount of punishment which a man can bear, otherwise a surgeon would not be ordered to attend the infliction of the sentence, and arrest the whip when he finds the culprit sinking under its effects.

By these observations we do not mean to advocate solitary confinement and bread and water, as punishments for soldiers in the East Indies, as the injury may be more than was designed, and consequently more than is proper. But we maintain that all punishments are more or less injurious to the physical health, and that flogging is a punishment much more detrimental to the moral man than solitary confinement. In the former case, the man feels degraded, and too often loses all desire to retrieve his character. In the latter, he is not exhibited in public, and has ample time for reflection and repentance in his lonely cell, where his messmates cannot pamper him with intoxicating draughts. But while we advocate seclusion, we condemn starvation on bread and water. We would mortify the spirit, but not withdraw proper sustenance from the body. If the great object of punishment be the prevention of crime, we know, from observation, that the dark cell is more dreaded than the whip. This we saw exemplified among the French prisoners during the last war. Nothing was so operative in

preventing crime as the dread of the cachot.

Our author's attention was first drawn to the effects of this kind of punishment by two men who were so treated at Hyderabad. These effects resembled a good deal those of sea scurvy. The history of the Penitentiary Endemic, by Dr. Latham, also exemplifies these effects.

"Many men, particularly those of indolent habits, endure a confinement of four or six weeks, on bread and water, without injury to their health; but in some instances, a shorter period is sufficient to cause a total loss of appetite,—the bread is hardly touched, and on other food being allowed, the patient is unable to eat or to digest it. The stomach becomes weak; there is uneasiness across the region of the stomach, spleen, and liver; the latter is torpid; the bowels are confined, or they are relaxed with slimy discharges unaccompanied with pain, yet the swollen red tongue indicates the existence of irritation of the mucous membrane of the digestive canal. The pulse is quick and feeble; and the clammy skin, vertigo, debility, headach, and sleeplessness, show how much the constitution suffers from diminished nervous power. The convalescence is slow, and the treatment requires to be adapted to the enfeebled state of the system. The effect is, however, more clearly seen in men sentenced to six or twelve months solitary confinement. Two of these were in hospital at the same time, with decided symptoms of scurvy:—one was admitted after five months confinement, during part of which he had been allowed extra diet at my recommendation. It was observed, that for some time previous to his removal to hospital, his daily allowance of bread was removed almost untouched. He complained of pains of the limbs, along the spine, and across the loins; tenderness of the shin bones; hardness, pain and feeling of stiffness of the calves of the legs, and the skin over the painful muscles was of a dark livid colour from effused blood. The gums were spongy, livid, and retracted, and he suffered from sleeplessness, some pain of the

region of the liver, and slight griping. The tongue was yellow and its edges red. The other had been a shorter time in confinement, and complained of debility, disorder of the bowels, pains of the shin bones, &c."

We wonder indeed how any rational people could think of sentencing soldiers to six or twelve months' confinement on bread and water! The plan must prove ruinous to the constitutions of nine-tenths of the miserable victims of a mistaken and too rigorous system of retaliation for crimes not capital.

NITRATE OF SILVER IN IMMENSE DOSES.

There resides in the vicinity of London a gentleman whose face must be familiar to many thousands of its inhabitants. His skin is intensely blue from the internal use (or abuse) of nitrate of silver. He is now about 73 years of age, and at the age of 45 became affected with epileptic fits of the most violent and distressing kind. In these attacks he struggled so strongly that it required two or three people to hold him. The fits also were very frequent, and in one of them he totally and for ever lost the sense of hearing. A most distressing noise in the head, however, has even since harassed the patient. After trying various remedies for the epilepsy, without the least benefit, he was advised by the late Dr. Curry, of Guy's Hospital, to enter on a course of the nitrate of silver, beginning with small doses, a quarter of a grain three times a day, gradually increased. In the course of a few weeks the attacks began to diminish in intensity, and in a few months, the intervals became much lengthened. The medicine was continued in augmenting doses till the epileptic paroxysms entirely ceased, which they did within six months from the commencement of the course of medicine already mentioned. Dr. Curry never warned the patient as to the effect of nitrate of silver on the skin, if long continued, and the physician himself dying about this time, the patient per-

severed with the medicine for the space of three whole years, the doses being eighteen grains a day for nearly all the third year! The patient, who is a highly intelligent man, avers that he never experienced any unpleasant effect from the medicine—indeed he felt no effect at all, except its remedial power in arresting the epilepsy. Not having any idea of its physiological agency on the skin, he continued the nitrate with the view of effectually guarding against the return of the malady which he so much dreaded. It does not appear that the blue colour made any serious advance till towards the close of the third year, otherwise it is probable that he would have taken alarm, or that he would have been apprized of the circumstance by his friends. At this remote period, however, he cannot distinctly recollect the exact time when the blue tinge of the rete mucosum commenced or acquired its complete acmé of intensity. This fact is of considerable interest, as there is probably no case on record where such a quantity of the nitrate of silver has been taken, or continued so long. It accords with our own experience as to the absence of any sensible physiological effect on the stomach and bowels which usually attends the administration of this medicine—unless we except a certain soothing agency—probably the consequence of obtunded sensibility in the gastro-intestinal nerves and tissues. In all cases excepting epilepsy, however, it is never necessary to give more than a grain or two of the nitrate daily (pills made up with extract of liquorice) and not continued beyond a few weeks at one time. Combined with the compound extract of colocynth, also, it forms an excellent remedy for irritability of the primæ viæ attended; as is often the case, with torpor of the bowels and vitiated secretions.

ON THE EFFECTS OF COLD. By SIR HENRY HALFORD.

This little dissertation was one of those papers with which the worthy

Baronet has annually opened the College over which he presides, at the commencement of the London season. Few of Sir Henry's socii have been able to adapt their discourses so admirably to the mixt audience of a commencing session as the President himself. On these occasions the senator, the divine, the philosopher, and the poet are all sure to find in Sir Henry's addresses, something to excite their attention, call forth reflection, or gratify the intellectual palate.

The present Essay, though very concise, embraces many striking incidents connected with wide-wasting war or perilous adventure, from the expedition of Banks and Solander over the inhospitable tracks of Terra del Fuego, down to the disastrous flight of Napoleon from the smouldering towers of Moscow. Dr. Solander, who probably had read the *Cyropædia* of Xenophon, or, at all events, was practically acquainted with the effects of extreme cold amongst his native mountains of Sweden, warned his companions against the fatal lethargy that is apt to assail the snow-surrounded traveller, yet was the first to experience it, and the most urgent in his entreaties to be left to his fate!

Xenophon's retreat is next adduced by Sir Henry, and his loss of 30 men in one night, burnt by the snow storm!

"Borea penetrabile fugus aduret."

The wretched fate of the army under Sweden's mad monarch forms a fine illustration of the effects of cold on large masses of men; but the most memorable and fatal catastrophe of this kind is the one which occurred in our own times, and hurled the diadem off Napoleon's head.

From the historical part of the subject Sir Henry goes on to the pathological, and coincides with Portal of old, and Dr. Kelly of late, that cold induces death by apoplexy. The only original part of this paper is a manuscript account of the death of an English clergyman by cold in the ascent to the Col de Benhomme in Switzerland. Though accompanied by a guide and some fellow-travellers, he was obliged

to be abandoned in the snow, the survivors having, with difficulty, reached the hospice on the summit of the pass! Sir Henry was informed by the late Russian Ambassador that there is a level country, about 100 leagues square, sloping to the South, on the borders of Siberia, where a year rarely passes without people dying at the age of 130! The registers are said to be very accurately kept.

Our author concludes by observing that the records of Greenwich and Chelsea Hospitals prove that the soldier lives longer than the sailors, verifying the remark of Homer three thousand years ago—that

"Man decays when man contends with storms."

There is probably much truth in the solution which Sir Henry attempts of this disparity of years in the two services. The soldier does not enter on military duty till his frame has been completely developed. The sailor hangs over the boiling surge, "on the high and giddy mast," when only a boy. No wonder that his range of life should be curtailed, when we consider the hardships which he endures, and his imprudent thoughtless conduct while on shore.

We repeat that this little oration (if we may apply the term) was well adapted to the audience before which it was delivered, though containing nothing of an original character. The historical facts were well selected, and the classical allusions, as might be expected, were elegant and appropriate.

RETROVERSIO UTERI.

In the month of March of the present year (1837) Dr. Johnson was summoned to a lady, aged about 25 years, married, and who had borne one child three years previously. She had menstruated regularly, from the death of her child, up to within a few days of the present time. She was seized while at dinner, with severe pain in the lower part of the abdomen, between the umbilicus and the pubes, for which a practitioner

prescribed some opiates. Next day Dr. J. saw the patient, and found that the pain had returned, after a temporary mitigation. On examination of the abdomen, there was some slight tenderness, but no tension, swelling, or symptom of inflammation, local or general. A brisk aperient was prescribed, and on the succeeding day there was very little pain complained of by the patient. The aperients were continued for a day or two, when the lady considered herself well, and Dr. J. discontinued his visits.

In a few days afterwards, he was again summoned, and the lady complained that she was unable to make water, except with the greatest difficulty, and in small quantities at a time. On inquiry, it was now found that this complaint had been gradually increasing since the commencement of the attack already mentioned, but she had not disclosed it till it arrived at its present height of distress. External examination threw no light on the nature of the complaint, there being no swelling, tenderness on pressure, or pain. Dr J. attempted to introduce a female catheter, but without success. It was met by an insuperable obstruction, apparently about the neck of the bladder. On examination by the finger, the vagina was found to be occupied almost entirely by a tumour situated between it and the rectum, and rendering it difficult to introduce two fingers. The os uteri could be felt tilted up against the pubes, or rather above it, and the body of the uterus could not be distinguished from the tumour obstructing the vagina. The same tumour could be felt obstructing the rectum. An elastic catheter was, after much difficulty, introduced into the bladder, but very little water could be drawn off, as the bladder was evidently displaced. One of the most eminent physician-accoucheurs in London was called in, and after a careful examination, pronounced it to be *retroversio uteri*, and believed that the womb was in an impregnated state. All efforts to replace it were ineffectual, and the lady continued to suffer much from incessant attempts to make water. Two or three days afterwards, another distinguished accoucheur was consulted

and confirmed the opinion of the former, except that he had some doubts respecting impregnation, seeing that the mouth of the womb was patulous, and no symptom of pregnancy existed. He pronounced the uterus to be enlarged, and the bladder to be displaced, as he could not introduce a catheter. He could suggest no means of relief. A few days farther on, and the first physician-accoucheur again made a careful examination, per vaginam et rectum. He was now fully convinced that at least three months' pregnancy existed. On the day that this last examination was made, the lady suddenly passed a large quantity of water, with perfect ease, and sent for Dr. Johnson. On examination, the tumour was gone—the os uteri and the uterus itself could be distinctly felt in their natural situation, and no inconvenience was afterwards experienced by the lady, who has continued to menstruate, and is in perfect health.

This is a curious and instructive case. That the uterus was retroverted, and, at the same time, unimpregnated, there can be no reasonable doubt. But that it was retroverted by the state of the bladder, and that the bladder itself formed a principal part of the tumour, *inter vaginam et rectum*, appears to the reporter extremely probable.—J. J.

DR. LEWINS ON COLCHICUM.

A paper on this subject appears in the last Number of our Northern contemporary. Dr. L. appears to think that—"a great proportion of the medical profession in Great Britain are ignorant of the medicinal virtue of colchicum, or at least underrate its efficacy, whilst many decry it as a drug of doubtful and dangerous character." We know not how this may be North of the Tweed—but, in the South, we can assure Dr. L. that there are few medicines in the Pharmacopœia, with the exception of calomel, senna, salts and half-a-dozen common drugs, which are more frequently seen in prescriptions than colchicum.

Observing the effects of this medicine in gout, and its power of diminishing irritability of internal organs, Dr. L. thought it might be useful in all or many inflammatory diseases—a conclusion to which most practitioners in this part of the kingdom have long come. And here we may correct a singular mistake into which our author has fallen. He remarks that the London and Dublin *Pharmacopæias* direct, the former two drachms and the latter four drachms of wine of colchicum for a dose. Now the London *Pharmacopæia* never mentions the dose of any medicine—and we believe the same of the Dublin. In order to ascertain the effects of this medicine, our author instituted a series of experiments on himself and others in health—imitating the practice of a countryman of his own, who used, some thirty years ago, to give digitalis parties to students.

The first experiments which our author appears to have made were on himself. He took from forty to seventy-five drops, without feeling much other sensation than that of depression. To a medical student he gave, in twenty-four hours, 160 drops, with the effect of slight nausea, followed by sleep. Six or eight watery motions, however, with considerable griping, and “great commotion” in the colon, were among the physical effects. These are just the common phenomena which we observe when the dose is a large one—namely a fluid drachm, which contains at least 100 drops.

After several other experiments, our author began to exhibit colchicum in fever. He first ordered a female servant to take thirty drops every three hours; but rather violent vomiting came on, and the dose was diminished one-half, and ultimately to ten drops every three hours. The effects were salutary—sweating, vomiting, purging, &c.—with reduction of the fever. Six cases are detailed, of which the one here noticed may serve as a sample.

D. L. intends to renew the subject in a subsequent Number of our contemporary; meantime he comes to the conclusion that, from the results of his trials hitherto, “we may more cer-

tainly cut short fever, or at least break its force, by the judicious administration of colchicum, than by any other known means.” To this we respectfully demur, and would submit that, by employing colchicum as an *auxiliary* to other means commonly in use, we will succeed better. Dr. L. indeed, does not prohibit other means, but he thinks that “they will seldom be required if colchicum be boldly but prudently prescribed in the early stages of disease.” Dr. L. in another place, tells us that every dose must be carefully watched by the practitioner, and increased or diminished according to its effects. But we ask Dr. L. what sort of practice he is in, when he can afford to dedicate almost the whole of his time to a single patient? If an epidemic fever, or any other febrile complaint prevailed, Dr. L. would require at least a score of assistants to watch his colchicum patients! People should have reason in their recommendations, and remember that every medical man cannot sacrifice himself and his family, by devoting the whole of his time to the attendance on one or two patients. But one medicine may be very usefully employed in a great many febrile and inflammatory complaints, without all this precaution, and yet with very sensible and unequivocal effects. The dose, in general, may vary from ten to thirty minims, though the latter may be considered a large one except when given for gout or rheumatism, and that at bed-time, without any other dose in the day. When given for common inflammatory affections, ten minims three times a day to a grown person, will be found quite enough; and we imagine that it is much better to give this active medicine in such doses, and in combination with other remedies of known efficacy, as antimony, digitalis, calomel, &c. than to exhibit large and powerful doses of colchicum alone, requiring constant attention to prevent injurious effects.

But there is one other consideration worthy of attention. When the abnormal or poisonous effects of colchicum *happen* to take place, have we any certain means of controlling them? We

apprehend that we have not such means. Opium and cordials may sometimes check the enormous vomitings and purgings of colchicum; but we should be very sorry to incur the risk, while trusting to these correctives. Dr. L mentions a case where two drachms of the medicine proved fatal lately in a public hospital.

MALIGNANT DISEASE OF THE STOMACH, ATTENDED WITH REMARKABLE SYMPTOMS.

Mr. J——, about fifty years of age, and reported to have been active and temperate, came under Mr. Diamond's care about four years ago. His chief complaints then were diarrhœa, and discharges occasionally of blood from the bowels, of a florid colour, supposed to be hæmorrhoidal. On the 24th of July, 1836, Mr. J. was suddenly attacked with a most violent pain in the chest, attended with sense of suffocation, and a feeling as if he was dying. These attacks recurred frequently, and the advice of an eminent surgeon was taken. This gentleman considered that the disease was angina pectoris. The patient, at this time, complained of no pain in the stomach or sickness, nor did pressure in that region occasion any inconvenience. He appeared to improve in health, and went to Margate. On the 20th of October last, Mr. Diamond was summoned to the patient, and found him labouring under an attack of the complaint believed to be angina pectoris. No medicines appeared to give any permanent relief. He now began to emaciate much. About Christmas he complained of a burning heat in his stomach, for which Dr. Elliotson prescribed twenty-five grains of the subnitrate of bismuth three times a day. He seemed worse after this. On the 23rd of January, 1837, Dr. Johnson saw the patient, and on examination, discovered a tumour in the region of the stomach, which he considered as of a malignant nature, and that it would be fatal. He prescribed, as a

placebo, a mixture of lac. amygdal.—carb. magnesiæ, mucilage, and tincture of hyoscyamus. This appeared to give him much relief as far as the stomach was concerned. There was no vomiting. But the most formidable symptom was now a periodical attack of what resembled violent chorea, which came on regularly every seventh day, namely, on Sundays—and sometimes required one or two people to hold him in bed. These fits recurred for six weeks before his death. His last accession was out of its usual course. It occurred on a Thursday, and on the following Sunday he died. It was evident, on dissection, that the fatal event was occasioned by internal hæmorrhage; for the intestines were found to be full of coagulated blood, and all the vessels of the body were completely empty. The periodical attacks of violent jactitation did not seem to be occasioned by food; for in one of the severest that Mr. Diamond witnessed, no food had been taken for six hours previously to the seizure.

Concise Account of the Stomach.

The *lesser omentum* was quite obliterated, and the left lobe of the liver intimately adherent to the *smaller curvature of the stomach*.

The *greater omentum* was much thickened in the neighbourhood of the *greater curvature of the stomach*, and some of the thickened portion had turned over the anterior surface of the *stomach*, and contracted an adhesion to the *smaller curvature*. The consequence was, that the *stomach* formed a sort of pouch on the right, and another pouch on the left, while the adherent band of omentum produced an hour-glass contraction in the middle.

On opening the *stomach*, a small portion of its anterior, and a large portion of its posterior surface, nearly the whole of its *lesser curvature*, and the vicinity of the *œsophageal opening* were the seat of *fungoid tubercles* more or less ulcerated, and partially sloughing. In other parts, the tubera were in an earlier stage. In these spots the muscular coat of the stomach was hypertrophied; and undergoing the

malignant change; while between the muscular and mucous coats, the fungoid deposit had commenced. A section of one in a more advanced condition exhibited incipient softening in the centre, and ulceration beginning to invade the mucous membrane.

The character of the morbid growth was neither that of pure scirrhus nor of pure medullary sarcoma—but, as not unfrequently happens, of an intermediate production. Such is occasionally seen in the breast, the liver, and the stomach—and, indeed, in the other organs and tissues of the body.

It is not very easy to account for the periodical attacks to which this unfortunate gentleman was liable. Still when we contemplate the amount and the nature of the organic disease in so vital an organ as the stomach, the wonder is that he lived so long, or that any digestion at all could be effected. The absence of vomiting in this and in other organic diseases of the stomach, where the pyloric orifice is free, and the cardiac involved in disorganization, is not inexplicable.

SIR FRANCIS SMITH ON CREOSOTE AS AN EXTERNAL APPLICATION.

The observations of Sir Francis Smith were originally read to the College of Physicians, in Ireland, and have been published in our esteemed contemporary of Dublin.*

Sir Francis observes that practitioners in this country evince an indisposition for the use of new remedies—an indisposition, which, he thinks, amounts to a vice, although in its origin a virtue. We feel some doubts of the correctness of Sir Francis's opinion on this point. We see, in practice, in London, little evidence of the bashfulness which he deprecates, nor of that coy reluctance to prescribe new drugs, which in Ireland would seem to amount to a vice; nay, could we trust the evidence of our senses, we should

rather deplore the wholesale manner in which the new medicines are abused, and the want of discrimination, we might sometimes say of common sense, which is evinced in their selection or their distribution.

Sir Francis has not made many experiments on creosote, and those experiments have been confined to its external application. He observes that one source of discrepancy in results will exist in the difference of specimens made use of; the strength or concentration differing much both from the variety in the mode of preparation and purification, and also from the mode of preservation. That which he has always used was from the Apothecaries' Hall, of sp. gr. of 1,064, and nearly colourless. He has tried the creosote in three cases, or rather, he relates three cases in which he has tried it.

Case 1. A gentleman had phymosis, with the outside of the prepuce covered with ulcers of a ragged phagedænic appearance, with a good deal of constitutional disturbance. Some alterative doses of blue pill, in combination with morphia and tartar emetic, were prescribed, with soothing applications to the parts. This treatment had the effect, in conjunction with the recumbent posture, of quieting the constitution, and diminishing the tension of the parts. But every mean was tried in vain to cause the ulcers to heal; they still preserved their phagedænic character, and at length united into a zone, nearly surrounding the prepuce, and threatening its destruction. Sir F. Smith now applied the creosote pure with a pencil. Next day the sores were improved, and had contracted one-third in diameter. Being lightly touched every day for six days, they were entirely healed.

Case 2. A young gentleman, much broken down in constitution, became affected with an abscess by the side of the anus, which opened near the latter. On passing a probe into the orifice, says our author, "I found an orifice, through which the matter, which amounted to an egg-cup full, had been evacuated;

* May, 1837.

and on passing in a probe, I found it to enter about one inch, passing upwards, and resting upon the side of the gut; on further investigation, I found that the sinus branched about midway its course into another cul de sac, which passed rather away from the gut, and presented to the probe a rough, yielding, spongy sensation; at the opposite verge of the anus an inflamed pile existed." The soothing plan was continued, but it did not answer. Under these circumstances, the creosote was resorted to. Sir F. introduced to the bottom of each cul de sac a very small dossil of lint smeared with it. In two days more the creosote was repeated, and four more applications spread over a fortnight, nearly perfected the filling up the sinus. The red precipitate afterwards completed the cure.

Case 3. A lady, of a scrofulous habit, had had for some months ulcers of the septum narium, which had resisted much and varied treatment. Sir F. resolved to do nothing but employ the creosote locally.

"The ulcers amounted to four, varying in size from the head of a pin to the section of a very large pea; three on one side of the septum, and one (the largest, and the first which had made its appearance), on the other side.

I at first made use of a wash, consisting of one part creosote, with sixty of water; in which proportions they unite at common temperatures; the wash to be snuffed up the nose frequently in the day. The odour was complained of as very disagreeable, and at the end of two days, I was disappointed by finding that I had made no progress in improving the appearance of the ulcers. I now determined to apply the creosote in its pure form, and began by pencilling the edges of the ulcers with a brush smeared with creosote, and directing the patient to inhale the fumes of acetic acid for a few seconds subsequently. The application of the pencil was rendered easy by firmly grasping the ala nasi, and drawing it outwards; and I advised the inhalation of the fumes of acetic acid for two reasons: first, because acetic acid

is the proper solvent of creosote, and would, by being inhaled immediately after its application, have the effect of rendering its action more equable and uniform; and secondly, because the odour would tend to counteract the disagreeable fuliginous flavour of the creosote. The next day I had the gratification to find the character of the ulcers improved; the edges were much less abrupt, and I now determined to apply the creosote lightly over the whole of the ulcer on the left side of the septum, and to brush those on the right side with a solution of creosote in twenty parts of acetic acid; and I continued to do so on alternate days for a week, at the end of which time, the ulcer on the left side of the septum was reduced to a mere point, having every appearance of immediately healing; whilst those on the right side, though improved in appearance, having smooth edges gently declining towards the centre, still preserved their original dimensions. I now applied to them also the pure creosote, repeating the application on alternate days, accompanied with the inhalation of the fumes of acetic acid. The rapidity with which the ulcers now healed was truly wonderful. That on the left side, to which I first applied the creosote in a pure state, was completely healed in ten days; and those on the right side, in six days after the first application of pure creosote, and sixteen from commencement of treatment."

Sir Francis observes that for small ulcerations in the mucous membrane the pure creosote is most effective—that the solution of one part in twenty of acetic acid is not destitute of power—but that the solution of one part in sixty of water is only adapted for ulcers where the surface is large.

There can, we think, be little question that the creosote is an useful application where a powerful stimulant is wanted. It must be classed as a local agent with the balsams, the compound tincture of benzion, &c. Probably those surgeons who possess the greatest amount of experience will be least disposed to attach to it any very marvellous properties.

DR. LENDRICK ON THE USE OF THE
NITRO-MURIATIC ACID BATH.*

Dr. Lendrick is of an opposite style of thinking to Sir. Francis Smith. He is not afraid of an excessive aversion on the part of the profession to new remedies. "I have often," says he, "inculcated on my pupils, the importance of accurately scrutinizing the merits of obsolete modes of treatment, rather than speculating on new and untried remedies: under the conviction that there is little recommended on respectable authority, which is not of efficacy in some cases."

Accordingly Dr. L. writes strongly in favour of the nitro-muriatic acid bath. He thinks the neglect into which it has fallen arises in a great degree from its having been used only in the form of a foot-bath. He advises its being more efficiently employed as a general bath, and he gives these directions for its use.

"The patient is placed in a common warm bath, at a temperature of from 90° to 95° (according to his feelings), twice or thrice a week, and for a period of fifteen to twenty minutes. Into each bath (of from thirty to forty gallons of water) are poured from an ounce and a half to two ounces of concentrated nitric, and from two to three ounces of muriatic acid; the proportion being nearly that of two to three.

This practice may be continued for weeks or months. The use of the bath does not seem to produce either debility or any other derangement of the general health; nor have I seen pyralism or those eruptions of the skin described by authors as its effects, except once, and that was when it was used in a less diluted form as a foot-bath. Idiosyncracies will, however, occasionally produce anomalous symptoms, as in the case of other remedies. Its application ought, therefore, always to be superintended by a medical practitioner."

Dr. Lendrick particularly recommends this bath in what is called

"liver consumption," and in the cachectic cases, which result from the abuse of mercury, or depend on the combined action of syphilis, mercury, and constitutional idiosyncrasy.

DR. FINGERHUTH ON HYPERTROPHY
OF THE MAMMARY GLAND.

For the translation of this memoir we are indebted to our able contemporary, the Dublin Journal, in the number of which for May, it is contained. We shall not, nor need we, do more than present an abbreviated account of the memoir, which itself is rather lengthy.

Dr. Fingerhuth distinguishes two forms of Mammary Hypertrophy:—one which runs its course quicker, and is always a disease complicated with and occurring synchronous with puberty; and another which develops itself more slowly, advancing by hardly perceptible growths, and which is principally affected by disturbance in the functions of the generative organs.—The Doctor, however, confines himself to the description of the first form.—The following is his account of its course and appearances,

"The mammary gland enlarges, usually the right, rarely both at the same time, preceded by a prickling sensation, accompanied with irritability in the affected breast. The swelling extends uniformly over the entire breast. This ailment always occurs at the period of puberty, and with the development of the breast. Usually the persons affected have not menstruated, or if the menses have appeared, they flow sparingly, are of short duration, and soon cease, never to re-appear. We remark at this period a quicker growth of the swelling, at the very time when the monthly period has ceased, and very often the patients complain of a sensation of the increased tension, which however, becomes less at the cessation of this period, and the accelerated growth of the hypertrophying organ returns to a more slow and steady progress. Sometimes now, also the voice undergoes a peculiar change; it becomes

*Ibid.

rough, hoarser, somewhat double; this may last many days, then disappear, and return again, without any decided alteration being discoverable. In one patient I remarked, that this hoarseness occurred at the menstrual periods, although the menses had ceased: on the other hand, in another patient, I did not remark this change of voice at all. On examination, we see that the nipple has become flatter and broader, and the areola surrounding it attained a great extension; the tumour at first gives a sensation of tightness, without the colour of the skin as yet having suffered any change. Later, when the breast has acquired a more remarkable size, to a superficial examination it appears softer, and it is only by a deeper pressure of the examining finger, that those hard-feeling and enlarged acini of the mammary gland are to be met with. At this period we find the veins in the surrounding skin more extended, and the breast assuming a somewhat bluish tinge, yet, without a remarkable change of colour. Thus, this disease continually advances, and according to circumstances, tolerably quickly; the affected breast acquires an immense volume, extending to a length of from 18 to 20 inches, or more, with a circumference of from 20 to 24 inches, weighs from 10 to 12 lbs., and renders motion difficult to the patient. The perspiration, as well as the blood freshly drawn, has a peculiar odour, and the latter contains much free carbonic acid.* According as the swelling through this excessive growth of the gland, advances, the rest of the person grows thinner by degrees, and by comparison, the affected breast appears to increase more rapidly in its enlargement. Later, the organs in the cavity of the thorax are forced to sym-

pathize; now comes difficulty of breathing, with tightness in the chest; then cough, at first dry, but afterwards accompanied by frothy sputa, sometimes mingled with streaks of blood. The strength disappears, hectic fever follows, and death, from general exhaustion, sometimes preceded by the symptoms of hydrothorax. However, the further progress of the disease often differs from the picture now given, and in respect to its termination, offers many deviations; for this swelling may arrive at a certain stage of development, and there remain stationary for a series of years, without the interference of art; or, during the whole life-time of the individual with no further disadvantage to the general organization, than what is necessarily endured from the enormous volume of the breast."

The terminations of this disorder are—1st, in recovery, which is seldom perfect, the gland never returning to its normal volume; 2dly, in other disease, encysted alterations for example; 3dly, in death, important organs sympathizing.

Anatomical Details.—The internal structure, says Dr. F., of the mammary gland is, with few exceptions, unaltered; and despite of the extensive growth in the whole, and the increase of volume of the separate acini, the latter do not exhibit any deviation from the natural structure. The cellular tissue is looser, its cells larger, and we commonly find much fat accumulated within it. The arteries do not exhibit any change, either in structure or dimension. On the other hand, the internal milk-vessels are swollen, increased in size, and the veins are always remarkably enlarged, and sometimes altered in structure. The nerves have not become smaller or thinner: yet their size compared with the magnitude of the hypertrophied gland, makes them appear diminished, although retaining their original size. Yet where the nerves are harder and firmer, we find that the nervous mass has lost some of the medullary tissue. In the hypertrophied breast we find the growth of the mass, the increase of volume,

* 3xvj. received in vacuo, contained 1,002 free carbonic acid. I obtained similar results from patients labouring under asthma and chronic bronchitis; on the contrary, the blood drawn from those suffering from abdominal and nervous diseases, in general, contained only a small quantity, and often no trace whatever of free carbonic acid.

and the increase of the absolute weight, and in the same proportion as the mass increases, so also does the absolute weight; it is not so with the specific weight, as is well known to occur in inflammations. With this also combines the remarkable formation of venous blood-vessels, and enlargement of the veins, whilst the arteries retain their normal size; and although we cannot give the reasons for it, yet is it nevertheless a fact, that the organs best supplied with venous blood, are those most disposed to hypertrophy; and that in the parts affected with this morbid growth, the mass of venous blood-vessels arising from enlargement of the veins, increases in the ratio of the growth of the swelling, and the increase of volume, and *vice versa*.

Causes.—Puberty stands at the top of the list. Its influence may be increased by too heating food, by manipulation, and stimulating applications to the breast, by a blow, or some source of local irritation: it must be owned that the precise and efficient causes of this affection are any thing but well understood.

Treatment.—On this head we do not see much to detain us. Dr. Fingerhuth's hints are such as would occur to most practical men.

When the disease is incipient, derivatives, attention to the secretions, and particularly to the menstruation, occasional leechings of the feet or even of the breast, evaporating applications to the latter, and the careful removal of all likely causes of local irritation or general plethora, are means which are rational enough. Iodine or burnt sponge, or we may add, the liquor potassæ, may be administered internally, and the various ointments of iodine or mercury externally.

If the disease has gone beyond that stage which medicine can control, and if it is proceeding to an extent incompatible with life, extirpation is a severe remedy, but it is the only one.

THORACIC INFLAMMATION MASKED.

Baglivi, long ago, deplored the difficulty of distinguishing, and still more of curing diseases of the lungs. Many people think that the stethoscope has removed this source of complaint; but they are mistaken. In the first place, very few, comparatively speaking, understand auscultation, even when they practise it—and, in the second place, many who have long studied the stethoscope, are liable to deception, from many causes which we need not here detail. We will illustrate these remarks by some particulars of an instructive case which we lately witnessed.

A gentleman of middle age, who had been long subject to winter-cough, and who was of a nervous temperament, was, exposed, during a journey into the country, to cold and wet, in the month of April of the present year. He returned to London very ill—his prominent complaint being incessant bilious vomiting, with cramps, spasms, and pains in the region of the stomach, but chiefly under the margins of the ribs of the left side. He had also considerable fever, but not more cough than he usually had in the spring of the year. The attention of the medical attendant was chiefly directed to the gastric irritation, and salines, opiates, and calomel were employed, with leeches and sinapisms to the region of the stomach. In the course of a few days (about four) the vomiting ceased, but the fever continued, and the spasms and pain under the false ribs of the left side persisting, the narrator was called in. The pulse was 140, and small—tongue dry and furred—thirst great—violent pain in the left side below the region of the heart—very little cough—dull sound on percussion in the lower portion of the left lung, and also in different parts of the right side—the action of the heart could not be heard by the ear or stethoscope—real muqueux pretty general in the chest—skin hot—urine very scanty and high-coloured. Leeches had been applied that morning to the left side, and the bites were still bleeding freely. The danger was considered imminent—

and he died early the next morning, about fourteen or fifteen hours after the consultation. A dose of calomel and opium rendered the latter hours of existence little dolorous.

On dissection, a great portion of the left lung, especially the inferior lobe, was densely consolidated by red (recent) hepatization. The lower portion of the pleura-costalis, and all the left pleura-diaphragmatica were intensely inflamed, and a layer of recent coagulable lymph, as thick as a penny-piece, glued the lungs to the ribs and diaphragm on that side. Several portions of red hepatization were also discoverable in the right side, but no recent pleuritis.

These phenomena sufficiently account for the intense pains, spasms, and vomiting, which masked the pneumonia and pleuritis to a considerable extent, and disguised the real nature of the malady, even till within a day or two of death. It is not very easy to account for the inaudibility of the heart's action, when the ear or stethoscope was applied to the cardiac region. There was nothing abnormal found about the heart or pericardium. Some patches of incipient inflammation were found about the cardiac orifice of the stomach.

USE OF THE SOLID NITRATE OF SILVER FOR THE GONORRHOEA OF WOMEN.

There is a very warm recommendation of the nitrate of silver, by Dr. Hannay, of Anderson's University, Glasgow, in the Medical Gazette.*

Gonorrhœa in women is generally said to be a very curable complaint. We cordially agree with Dr. Hannay in denying in toto that it is so. Nay we will go farther than he does; for while he admits that it is "much more so than in men," we believe that, on the whole, it is less so. The acute symptoms are pretty readily removed, it is true; but a chronic discharge is

generally set up, and when set up, is almost always obstinate.

The following is Dr. Hannay's mode of applying the caustic:—

"I introduce a stick of nitrate of silver into a quill, and tie a thread firmly round the lower part of the quill to fasten the caustic, which I leave projecting beyond the quill about half an inch. I generally smear the quill with a little lard, and introduce the *nitras argenti* up to the *os tincæ*, or as far as it can be made to ascend in the vagina. I then deliberately and slowly withdraw it, turning it round so as to bring it in as extensive contact as possible with the lining membrane of the vagina. I may add, that by accident the nitrate of silver has more than once broken in the vagina, and could not be found. It caused me much alarm and anxiety at first, but after the following case I was not so affected; and though I would carefully avoid it, I now regard the occurrence as of very little importance.

The late Mr. John Herbertson, who acted as my assistant in the hospital, came in breathless haste, and in the utmost state of alarm, to call me to his assistance to extract a piece of the nitrate of silver from the vagina of a woman, who, having previously been in the hospital, and cured by the use of the remedy in question, came to Mr. H. to have it again applied. On repairing to the house we searched in vain for the caustic, but had abundant proofs that it had dissolved in the vagina. The quantity he asserted to be above two drachms. She suffered little or no pain, and a perfect cure was straightway accomplished."

It would appear that this has become a sort of party question in Glasgow. Some persons there, have denounced the practice as barbarous and dangerous. On these Dr. Hannay, and some friends of his who correspond with him, are exceedingly severe; and all parties would appear to have been infected with the subject, and to be exceedingly *caustic* towards each other. To evince Dr. Hannay's confidence, it is only necessary to quote such a passage as this:—

* Med. Gazette, May 6.

"I fearlessly give it out as an infallible and safe remedy for this disease, without any one drawback but the vain fears of persons of no experience, or of such as are determined to oppose it. I have now employed it in above 300 cases with unvarying success, and shall continue to use it."

Bona verba quæso, Gentlemen.

ON THE CONDITION OF THE BRAIN IN SLEEP, EPILEPSY, APOPLEXY &c. By HERBERT MAYO, Esq.

In Mr. Mayo's recent work on the "Philosophy of Living," we met with some observations on the foregoing subjects, which have surprised us a good deal. We shall quote the passage in order to prevent any misunderstanding.

"A case is related by Blumenbach, of a person who had been trepanned, and whose brain was observed to *sink when he was asleep*, and swell out when he was awake,—*a proof that the cerebral circulation is more languid when we sleep than when we are awake*. The brain is not moved and excited by the same eddy and tumult of the blood during sleep as during the hours of waking. Accordingly, all the circumstances which hurry the circulation, such as mental contention, thought, joy, anxiety, bodily exertion, excite the heart's action, and are antidotes to sleep.

It is not equally easy to prove, but on reflection it appears no less certain, that *the nervous power of the brain is lowered in sleep*; that the depression of the cerebral circulation is accompanied by depression of cerebral energy. But how else are we to account for the slowness or suspension of digestion during sleep, the feebleness of the heart's action, the susceptibility of cold. 'The steam has been turned off,' and the body is relaxed; its functions (a fact best perhaps shown in hibernating animals,) are half at a stand-still; that which imparts force and activity to every function, is no longer generated in adequate power and quantity; the brain, the source of nervous energy, is in repose.

The bearing of these conclusions, if just, upon cerebral disease, is of supreme importance. *Brain attacks generally come on during the night, and during sleep*. That is to say, *they mostly supervene at the time when the power of the brain is lowered*. They are then, in some degree, connected with depression of the cerebral forces. They are favoured by weakness and exhaustion of the brain.

The attacks to which I refer are epilepsy, apoplexy, palsy; the common impression respecting which is, that they proceed from determination of blood to the brain, or from some kind of force or pressure operating actively to disturb the functions of the organ. I believe, on the contrary, that in the majority of cases, especially in advanced life, all these seizures results from cerebral failure, from weakness, depression of power, temporary or permanent, of some part or the whole of the brain.

It does not contravene the preceding conclusion, that these complaints are liable to be primarily induced by *action in the head*;—that where they do not result from alteration of structure, they often may be traced to habits of full living and strong excitement, which have frequently thrown the blood in hurried and violent circulation through the brain;—and that besides, in many instances, a loaded and laboured circulation goes with, and gives increased danger to such attacks;—and that nothing is more likely to benefit *the latter class of cases* than diminution by means of cupping, of the quantity of blood in the vessels. But grouping together all cerebral seizures that take the form of fits, I believe that the cases in which cerebral congestion is a feature, *are the exceptions*; and that it is most important the practice grounded on this principle should be recognized, that *diminishing the quantity of the blood is not the appropriate remedy for cerebral seizures*."

In the first place, a man with half the science which Mr. Mayo possesses, must be aware that a brain, when the skull is trepanned, is not at all in the physiological condition of one where the cranium is imperforate. Can it be

supposed that the brain heaves and retreats, dilates and contracts in volume when the atmosphere is excluded? If it do, what supplies the place of the diminished size of the encephalon? We hold it to be physically impossible that the brain is smaller in size at one part of the day than at another. Then, as to the "slowness or suspension of digestion during sleep," we know, from observation and experience, that digestion goes on more quickly during rest and sleep, than during exercise and waking;—in short, that the proposition above-mentioned is just the reverse of fact.

In respect to the "*feebleness* of the heart's action" in sleep, we join issue with Mr. Mayo, and aver that, in sleep, the heart beats *fuller* and slower than when the individual is awake, and that the circulation goes on more uniformly and freely over the whole surface of the body in the former than in the latter state. Who knows not that the face is redder, the features more expanded, the surface warmer, and the capillary vessels fuller in sleep than in waking? The analogy between sleep and hybernation is a very forced and false one. The functions are not "half at a stand-still" in sleep. They go on—secretion, absorption, assimilation—every function except those appertaining to sense and intellect, just as well when we are in the most profound sleep, as if we were all alive to the most vivid sensations and reflections—perhaps better.

Then as to "brain attacks" coming on more frequently in the night than in the day, we are ready to grant the proposition, but deny the inference which Mr. Mayo has drawn from it. It is not because the "power of the brain is lowered," but because the horizontal posture and the fuller circulation combine with a loaded stomach to *oppress* the brain, either in consequence of greater impetus of blood to that organ, or obstruction (for obvious reasons) to its return from the head.

Finally, we most strongly protest against the doctrine of taking fulness of the cerebral vessels, in fits," as the *exception*, and inanition as the general rule. A more dangerous precept was

never laid down for the guidance of young practitioners—and, a fortiori, for the instruction of popular readers. If acted on, it would annually prove the destruction of thousands. Is it only in the *exceptions*, that we find the brain torn up in apoplexy, or the vessels gorged as if injected with red wax? In epilepsy, the disease generally begins in youth, or in middle age at farthest; and are those the periods for emptiness of the cerebral vessels, or diminution of energy in the brain? No indeed! We would advise Mr. Mayo to modify these statements in his next edition, otherwise they will be productive of much mischief. In anatomy, physiology, and surgery, no authority is better than that of Mr. Mayo—but as to the details of practical medicine, we would advise him to bear in mind the homely but wholesome adage—"ne sutor." Verbum sat.

VITAL STATISTICS.

1. *Value of Life in Geneva.*

Our contemporary, the Medical Gazette quotes some passages from an article on vital statistics, published by M. E. Mallet, in *Annales d'Hygiène Publique*. The subject of the paper is the population of Geneva from the year 1549 to 1833.

The following are the statements of M. Mallet on the mortality of different ages:—

The first day of life is also the day of death to so many as one in fifty-one. The second day is three times less fatal than the first. On the third, fewer by one-half die than on the second. The mortality diminishes further on the following days, regularly, but less rapidly. The remainder of the first month is, however, still very dangerous, since the death of about half the children who die in the first year takes place in this first month, which is thus eleven times more destructive than the others. The deaths during the first month amount to 6.85 per cent. of the births.

The mortality diminishes from four

and a half to one, from the first to the second month; from two to one from the second to the third; from three to two from the third to the sixth. In the last six months of the first year the diminution of mortality is scarcely perceptible. During the whole first year one infant dies out of 7.2.

The second year is three times less dangerous than the first; it carries off one in twenty-one. The third is still less destructive by one half, taking one in forty-two.

From three to eight years the mortality decreases nearly two-thirds. From eight to seventeen it is very feeble; it is during this period that the years of lowest mortality occur, the tenth and the fourteenth. After seventeen years the proportion of deaths increases about a third, and remains balancing about the same rate till about forty-five. From that age it increases, at first gradually, but soon at a more rapid rate. Thus from fifty-one to sixty death carries off a fourth; almost half of those who attain the age of sixty-one die before they attain seventy. Of septuagenarians three fourths fall before eighty; and ten-elevenths of those who pass eighty die before ninety. The total number of those who have completed ninety years is fifty-six, or one in 194 (of the last class, we presume.) The oldest of these died at ninety-nine, no example having occurred of an individual at Geneva living a hundred years.

The Genevèse of the present age were surpassed by their ancestors in fecundity, and surpass them in longevity. Our contemporary observes that this is a sure proof that the modern Genevèse are much wiser than their forefathers—and we agree with him.

2. *Abuses of Vital Statistics.*

Our readers must be aware of the value we attach to the prosecution of statistical researches. And they must be aware also, that we have laughed now and then at the extravagant anticipations of some of the statisticians. Mr. Edmonds for example, occasionally advances some startling propositions, and one or two statistical writers in this country would induce us, if we

would allow them, to fall back on the *médecine exceptante*, and treat our patients on the "average" system.

The Royal Academy of Medicine at Paris has lately been addressed on this subject by M. Double, who has been at some pains to point out the inapplicability of statistics to the actual practice of medicine. We subjoin the following observations of M. Double, from an account of his paper contained in the *Medical Gazette*.*

"In mathematical analysis, the probability of future events is calculated from the observation of preceding facts, but always under the rules of the universal laws of large numbers, and without any individual application.

In medical statistics, on the other hand, the numerical method is expected to determine from the observation of preceding facts, and according to their number, the best method of treatment in each individual case which may occur. This, however, is quite impossible; and I may remark, that were it ever effected, medicine would cease to be either a science, an art, or even a profession: it would become as mechanical as the employment of the shoemaker.

What is called in geometry the universal law of large numbers, is the rule and the foundation of all calculations of probabilities. One of the conditions of this law is, that the causes of the events calculated, though some are constant and others variable, yet can in no sense be said to vary progressively. From this law it results, that all the differences and irregularities which balance each other disappear in the quotient: and in this way the calculations of lotteries, of maritime insurances, &c. are made.

But this is evidently not applicable to medicine; neither our successes nor our failures balance themselves in large numbers, as in the case of marine insurances. Each of our problems embraces but one individual; and besides, diseases always have their prevailing character, varying progressively according to an infinite variety of causes."

* June 3, 1837.

"The numerical method at once supposes and sanctions one of the greatest errors in therapeutics,—namely, the adoption of absolute and exclusive measures. The celebrated problem of Pickairn—'For a given disease to find the remedy'—is only reasonable, when understood in this way—'For a given indication, to find the best method of fulfilling it.' Each individual malady is not a simple phenomenon that can be represented by unity: it is not certain and fixed, but constantly varying. Thus the pneumonary of to-day is not the pneumonary of yesterday, and the pneumonary of Peter is not that of Paul."

While we agree in many respects with M. Double, we cannot go the whole way with him. It is very true that each case is a separate problem, or, in other words, that no two cases are *exactly* similar. But it does not therefore follow that no two cases are so similar, as not to require the same general mode of treatment, and to admit of a fair comparison of results with two other cases treated in another way. This is riding the eclectic hobby over hard. Common sense existed before statistics, and common sense has practically decided against M. Double. What is it but a species of numerical calculation, that has determined that bark is a better remedy for ague in the gross than bleeding is? What is it but a species of statistics that has settled all our great therapeutical opinions and methods? Diseases admit of the application of statistics to their treatment, provided that application be not too rigid. It is true, as M. Double observes, that it would be insanity to treat every individual case by some unyielding law deduced from previous numerical results. No one, we should hope, would contend for that. But the treatment of the individual cases will be greatly directed by those results, though a well-informed physician will allow the general principles of treatment to be modified by the special phenomena.

THE BRUIT DU DIABLE.

The *bruits* are multiplying most alarmingly. We know not exactly how many

there now are of them, but they would constitute a gamut, and honest plain folks are beginning to despair of ever being able to master them. It would be interesting to ascertain whether the correctness of diagnoses has augmented in the same ratio as the number of the bruits, and the minutiae of auscultators. For our own parts, we are rather inclined to doubt it. But to the point.

M. Bouillaud has described a "*bruit du diable*," so called because it resembles the sound of a humming top, or "*diabie*." He has heard it often in anæmic, chlorotic, and nervous subjects. He says that it rises and falls according to the pressure on the vessel, and the activity of the pulse, as the tone of the instrument varies with the strokes of the whip which urges it. It is chiefly heard over the course of the left carotid and subclavian, above the inner end of the clavicle. It is subject to sudden intermissions, for which M. B. is unable to account; and it is weakened or stopped entirely by a pressure on the arteries not sufficient to arrest the pulse. It ceases also if the artery be compressed above the place where the stethoscope is fixed, or if the larynx be pushed aside from that part, and also during a violent effort; but it is much augmented in intensity if the head be turned away, and the chin be raised. M. B. considers the *ronflement du diable* to be a sound intermediate between the bellows murmur and the musical sound of the arteries described by Laennec, and says that it is attended with a purring tremor of the parieties of the chest, of a slighter character than that which indicates contraction of the cardiac orifices. The same class of persons, viz. the nervous and the chlorotic, were the subjects of one or other of these sounds; and so constantly does the "*bruit du diable*" attend chlorosis, that he terms it the *bruit chlorotique*." He has also observed it in pale nervous men, but he does not decidedly state whether it was this sound or the others that he heard. He attributes it partly to a watery state of the blood, as it ceases to be audible with the return of health, and the restoration of that fluid to its normal condition; partly to the rapid circulation so near the heart; and in part to the

vicinity of the larynx, which acts as a kind of sounding-board.

Such is the condensed account of M. Bouillaud's observations, presented by Dr. Ogier Ward, in the Medical Gazette. He furnishes it, in order that he may offer a theory of his own to explain the phenomenon in question—a theory which places the cause of the sound solely in the veins: His reasons are the following:—

“First, the sound has been heard over the course of the external jugular vein as well as over the carotid arteries. Secondly, it is solely in this latter situation, and not always there, that the sound is so modified by the proximity of the carotid as to appear to be augmented by the ventricular systole. Thirdly, it is arrested by pressure on the external jugular when heard along the course of that vessel, and, as is asserted by M. B. by a pressure over the carotid quite insufficient to stop the pulsation of the artery, but which would certainly obstruct the flow of blood through the internal jugular. Fourthly it is increased by pressure, and by evert-ing the head with the chin raised; because, under these circumstances, the calibre of the vein is diminished, and consequently the velocity of the current is increased. Sixthly, for the contrary reason the sound is stopped by turning the head so as to shorten the vein, and retard the course of its contents towards the heart. The greater distance the blood has to traverse in passing from the left side of the neck into the vena cava, will also explain the greater frequency of the sound on that side. Seventhly, the sound is arrested by pushing aside the larynx, because this can be accomplished only while the muscles of the fore parts of the neck are relaxed, at which time the jugular vein is relaxed, also; besides that, the larynx and trachea sometimes prolong, by their resonance, the pulsation of the carotid and the respiratory murmur, so as to simulate the bruit-du-diable when none exists. Eighthly, a violent or a prolonged effort produces regurgitation in the veins, and thus puts a stop to the flow and sound of their contents. When the sound intermits, I have been able

to account for it by the pressure of the stethoscope, or by the position of the patient's head. Tenthly, the reason that the purring tremor, when felt, is slighter in these cases than when a contraction of the cardiac orifices exists, arises from the difference in the strength and tension of the vessels, by whose vibrations the phenomenon is produced.”

Dr. Ogier Ward concurs with M. Bouillaud in referring the bruit du-diable to a too fluid state of the blood, with increased rapidity of the circulation. Of five patients whom he has seen with it, four have been affected with palpitations, and two have been chlorotic.

CHEMICAL CONSTITUENTS OF CALAMINE. *

The powder sold in the shops under this name, and continually used by surgeons, consists, if the analysis of Mr. R. H. Brett be true, of—

Sulphate of barytes!

Oxyde of iron.

Carbonate of lime.

Lead (probably sulphuret)

Zinc ? (mere traces.)

SEVEN HALF-CROWNS SWALLOWED AND VOIDED AFTER TWENTY MONTHS.

The case is reported by Mr. Wakefield surgeon to the House of Correction.

“Twenty months ago, a man of the name of Seeley was sentenced to three years' imprisonment in the House of Correction. On the day of his admission, (under the apprehension, I believe of the money he had in his possession being taken from him,) he swallowed seven half-crowns. Shortly afterwards alarmed at his rash act, he mentioned the circumstance to one of the turnkeys who, however, gave no credit to the tale; and in a few days, feeling no inconvenience, and concluding the pieces of money had passed with his motions,

* Med. Gaz. April, 15.

the affair was forgotten. About a fortnight ago this man complained to me of sickness and slight bowel-complaint with general tenderness over the abdomen; for which he was removed into the Infirmary, and I prescribed some small doses of mercurial medicine, with Dover's powder, on the fifth day; and while under this treatment, to his great astonishment, the seven half-crowns fell clattering in one motion into the close-stool pan, having been retained in the intestinal canal upwards of twenty calendar months. Their colour was perfectly black; but upon examining them very carefully no loss of substance could be discovered."

COUGH ENDING IN EMPHYSEMA OF THE BODY.

Mr. F. G. Hicks, a young surgeon of much information and ability, has published an interesting case of this description.*

The patient was an infant, ten months old, who had laboured under cough for some days prior to the 21st of March, when Mr. Hicks first saw him. The cough was then violent, spasmodic, and occurred in paroxysms. Appropriate means were used, but the complaint was not relieved, and on the 30th, drowsiness, slight strabismus, and other symptoms of cerebral affection came on. By calomel, cupping, &c. these symptoms were relieved, but the cough continued, and in the evening of the 2nd of April, Mr. Hicks was sent for. The child had had two or three severe fits of coughing that day, and Mr. Hicks found extensive emphysema of the chest, neck and abdomen, with very laborious respiration. Next day the child died.

Dissection. There was extensive emphysematous swelling about the neck and chest, and extending over the abdomen and down the thighs. On raising the sternum with the cartilages of the ribs, several large bags of air presented themselves, which were found to be

formed by air having got between the two layers of the anterior mediastinum. The whole of the cellular membrane in the anterior of the chest was filled with air—more especially on the right side, and at the root of the upper lobe of the right lung. At this point, when the lungs were inflated by means of bellows, the air appeared to escape under the pleura, and here it was evident the lung had given way, causing this extensive emphysema. The lungs were much collapsed, especially the left, the right being somewhat emphysematous. They were much tuberculated, especially about their apices. The abdominal viscera were healthy. The head was not examined.

DIABETES.

1. ON THE COMPARATIVE STATE OF UREA IN HEALTHY AND DISEASED URINE, AND THE SEAT OF THE FORMATION OF SUGAR IN DIABETES MELLITUS. By R. M'GREGOR, Esq., &c.*
2. CASE OF DIABETES MELLITUS. By HENRY SNOWDEN, Esq. of Hull.†
3. MR. LEACH ON LYTIA IN DIABETES.

I.—Mr. M'Gregor is lecturer on Chemistry to the Portland Street Medical School in Glasgow, and was formerly apothecary to the Glasgow Royal Infirmary. He has contributed a long and an interesting paper to our contemporary, the Medical Gazette, on the composition of diabetic urine. The paper in question contains several experiments. These are too long for us to quote, but their results admit of being thus summed up:—

1st. "That we know of no disease characterised by the absence of urea; though in some the quantity of it is, in common with some of the other ingredients, diminished.

* Med. Gaz. April 22.

* Med. Gazette, May 13—20.

† Ibid. April 22.

2nd. That the quantity of urea is quite independent of that of the sugar; the former increases, not by reason of the disappearance of the latter, but because the patient has been put upon liberal doses of animal diet, opium, or some other powerful palliative, which checks the excessive thirst, and thus concentrates the urine. In the case of the healthy individual who was fed upon animal food and water exclusively for three days, the quantity of urea passed more than double the natural diurnal amount, shewing that large quantities of animal food increase the urea proportionally. Opium has a similar effect, both in health and diabetes. In the diabetic individual, who was similarly treated for three days, the urea crystallized readily on the addition of nitric acid, notwithstanding the presence of a large quantity of sugar.

3. That in diabetes, the quantity of urea is materially increased in consequence of the greater quantity of food introduced into the stomach, either vegetable or animal.

In the urine of herbivorous animals, we have a goodly proportion of urea. In one specimen, of that of a cow, I found 3.2 per cent. of urea.

4. That the sugar is formed in the digestive organs, and that the kidney is a mere outlet in common with other excretory organs of the body.

And, lastly, that it is readily discoverable in the blood, saliva, and stool of diabetic patients, and even in the blood of healthy persons who indulge in vegetables."

II. Mr. Snowden, of Hull, has related a case of diabetes insipidus, successfully, or apparently successfully treated by diuretics.

The gist of Mr. Snowden's observations is this;—that, the only constant morbid appearance in fatal cases of diabetes, is enlargement and turgidity of the capillaries of the kidneys—that this condition is essentially one of atony—that, it is highly favourable to secretion and exudation—that, it is remediable by the application of stimulants—and that, therefore, diuretics are indicated in diabetes.

A patient, aged 17, who had the usual symptoms of diabetes (nothing is said of its being the saccharine form, a material point), and who for ten months had voided every twenty-four hours, from five to twenty pints of urine, became the subject of experiment. When admitted he passed sixteen pints in the time mentioned, the quantity of fluid drunk being ten pints. The specific gravity of the urine was 1004. Analytical examination of 1000 grains gave water 987, urea 9.5, salts 3.2, a trace of uric acid, the rest lactates, with animal matter.

Venesection, diaphoretics, tonics, astringents, animal diet were employed without success. On the 10th of February, 1837, he passed twenty pints of urine. He was then ordered—

Habeat solutionem Potass. Bitart. pro potu ordinari.

R Potassæ Nitrat ʒiv; Aquæ, ʒviij. capt. coch. ij. ter in die.

R Spt. Ætheris Nitrici, ʒj. ; Aquæ, ʒj. ; M. ft. haust omne nocte sumendus.

This treatment was continued till the 2nd of March, when he passed six pints of urine. The medicine was then changed for infusion of quassia and spir. æth. nitrici. On the 16th of March, he was discharged cured, two issues being on that day established over the region of the kidneys. He passed three pints and a half of urine.

This case is dated the eleventh of April. It needs but a small acquaintance with diabetes, to be aware, that many cases have seemingly been cured, on as good grounds as the preceding, yet have in the end proved fatal.

When we turn from Mr. Snowden's fact to his reasoning, we fear there are some grounds for hesitation. In the first place, it is probable that the enlargement of the renal capillaries is an effect of the over-work of the organ, rather than a cause of the diabetes. In the second place, it is not certain that, granting such enlargement to constitute the disease, diuretics would tend to diminish it. It is very true, that passive inflammation of a mucous membrane is not unfrequently relieved

or removed by the direct application of a stimulant. Conjunctivitis, for instance, may be cured by a lotion of nitrate of silver. But diuretics cannot be considered as stimulants to the kidney of an analogous description. They rather urge the whole organ to increased exertion of its function, than act as mere local stimulating applications. But we shall be glad to see the experiment repeated by Mr. Snowden, or others.

III. Mr. Leach, of Heywood, Lancashire, is sanguine. He has written a letter in the Gazette,* in which he warmly encourages the idea that Mr. Snowden's recommendations may prove of great service. Nay, he has acted on them in one case of diabetes mellitus, and, apparently, with benefit. But although the patient improved more than once, he died of the disease, a circumstance attributed by Mr. Leach to his intemperance, which counteracted the good effects of the remedy.

The tinctura lyttæ we know to be useful in cases of enuresis. Whether it will cure diabetes is another matter. We own that we are sceptical.

THE NORTHERN FLORA, OR DESCRIPTION OF THE WILD PLANTS OF THE NORTH AND EAST OF SCOTLAND, &c. By ALEXANDER MURRAY, M.D. Part I. Edinburgh, 1836.

Dr. Murray is a resident physician at Aberdeen, and seems to be not only a very zealous, but also a very excellent, botanist. This first part of his catalogue of the indigenous plants found in the North and East districts of Scotland, is, in our opinion, quite a model of what a Flora ought to be. It is written throughout in English, and thus avoids all the ambiguity and pedantic uncertainty of Latin descriptions, which used formerly to tease us exceedingly in our botanical enquiries.

The excellent work of Dr. Greville, the Flora Edinensis, is upon the same plan, and has for many years contributed most essentially to diffuse a taste

for these delightful pursuits among the medical students at the Edinburgh University.

On the ramblers among the Highlands of Scotland Dr. Murray has conferred a most useful and agreeable present; and we quite trust that he will meet with such encouragement, as will induce him to complete the task, which he has so very ably commenced. The present part embraces the first five classes of the Linnean system.

In the preface Dr. Murray acknowledges the assistance of many friends, who have communicated the *habitants* of the plants described. Among these we observe the names of the Earl of Aberdeen, to whom the work is dedicated, and of Dr. Graham, the Professor of Botany at Edinburgh. The valuable contributions of the latter to the Edinb. New Philosophical Journal have gained for him the well-merited thanks of every lover of practical botany.

TIC DOULOUREUX RELIEVED BY GALVANISM.

Mr. Grantham, of Crayford, Kent, has reported this case, with some others, in the Medical Gazette.

Case. A tailor, aged 47, was attacked in the summer of 1829, with tic douloureux, the right facial nerve being the one affected, attended with involuntary contraction of the temporal, pterygoid, buccinator, and levator anguli oris, muscles. These paroxysms returned at intervals with increasing severity, sometimes lasting fourteen days without intermission. The removal of the teeth, salivation, arsenic, carbonate of iron, &c., were all productive of benefit, which, however, was but temporary. He would seem to be cured for three or four months, and then the complaint would return as badly as ever. In the beginning of July, 1836, Mr. Grantham tried a galvanic battery of 40 single plates, three inches square, each pair connected at the upper part with copper-wire, resembling Dr. Wollaston's battery,—the *Couronne des Tasses* arrangement. The patient was at this time severely affected. Shocks

* May 13, 1837.

were passed from the back part of the head, both sides of the face, down the neck, in the direction of every principal nerve, but more generally from the region of the parotid gland to the exit of the inferior maxillary nerve near the chin. The shocks from this battery were very severe—so powerful, indeed that few could have borne them. Where the shilling which communicated with the wire touched the skin, it caused excoriation of the cuticle, till at last the pain of the shocks exceeded in severity the pain of the shocks exceeded in severity the pain of the shocks exceeded in severity over the region of the parotid gland. During this process, he took carbonate of soda twice a day, in two-drachm doses.

September 12th, 1836, he felt better than ever he had done; since which time he has remained well, being enabled to wash his face with cold water, which he has not done before for the last three years.

We must not "holloa before we are out of the wood." The patient is relieved, but it is not certain that he is cured.

SUBSTANCE OF A STATISTICAL REPORT FROM THE MORGUE. Paris, 1836.*

The abridged statistical report, of which this is an additional abridgment, has been communicated to the *Lancet* by Dr. O'Reilly, of Dublin.

It appears that, in 1836, there were received at the Morgue.—311 bodies, or portions of bodies.—279 of different ages: males, 235; females, 44. In the 279 we have,—

Male suicides, 80; female, 28; suicides not proven male, 58; not proven female, 6; 172 probable suicides.

Male, homicide, 1; female, 3: 4 homicides.

Accidents, male, 52; females, 4.—56 accidents.

Sudden deaths, male, 44; female, 3. 47 natural, or sudden, deaths.

Males, 235: females, 44. Total, 279.

Nature of the Death.

Submersions, males, 151; females, 28; 179 submersions.

Sudden deaths, males, 39; females, 3. 42 sudden deaths.

Deaths from fire-arms, males, 12; females, 1. 13 from fire-arms.

Asphyxia from charcoal, males, 5; females, 4. 9 asphyxiated by charcoal.

Falls from elevated situations, males 4; females, 2. 6 from falls from elevated places.

Suspensions, males, 6; females, 0 6 from suspensions.

General burning, male, 1; female, 1, 1 from extensive burning.

Crushed under carriages, males, 9; females, 2; 11 crushed by carriages.

Sudden deaths, males, 5; females, 0. 5 from diseases.

Homicides, male, 1; females, 3. 4 homicides.

Poisoning by the inhalation of noxious vapours, 1, from mephitism.

Poisoning, males, 0; females, 1. 1 from poisoning.

Sharp, or cutting, instrument, males, 1; females, 0. 1 cutting instrument.

Number received in each month, male and female,—Total, 279. The maximum number was in May, and the minimum in November:—

May.....	41	December..	22
March.....	30	February..	19
July.....	29	September..	18
April.....	27	October....	18
June.....	26	January....	13
August...	25	November..	11

Table of the ages of the individuals carried to the Morgue.

	Males.	Females	Total.
From 5 to 10	2	—	2
10 to 15	6	1	7
15 to 20	14	3	17
20 to 25	16	4	20
25 to 30	28	4	32
30 to 35	23	3	26
35 to 40	24	2	26
40 to 45	19	7	26
45 to 50	22	3	25
50 to 55	21	3	24
55 to 60	15	3	18
60 to 65	15	6	21
65 to 70	12	1	13
70 to 75	7	1	8
75 to 80	5	—	5
80 to 85	2	1	3

Age not determined. 1

The suicides recognized were,—mar-

* *Lancet*, June 3, 1837.

ried, 33: unmarried, 45; widowers, 17: widows, 5. The professions of the suicides were,—

Military	10	Labourer	1
Invalids	2	Gardener	1
Old soldiers	1	News-venders	5
Military workers	1	Postilion	1
Joiners	3	Hosier's clerk	1
Printers	2	Librarian	1
Tailors	2	Plasterer	1
Wine-merchants	2	House-holder	1
Shoemakers	2	Knife-grinder	1
Masons	2	Shopkeeper	1
Butchers	2	Apothecary	1
Pastrycooks	2	Coachmaker	1
Makers of cordials	2	Physician	1
Bakers	2	A registrar	1
Cooper-founders	2	Hairdresser	2
Commission-agents	2	Indian-ink-maker	1
Clerk to wine-merchant	1	Rope-maker	1
		Delft-seller	1
Porter	1	Landladies	4
Broker	1	Laundry-maids	4
Jeweller	1	Cooks	2
Cutler	1	No profession	2
Paper-maker	1	Paper-worker	1
Stone-setter	1	Sempstress	1
Bell-maker	1	Clergyman	1
Paviour	1	Grocer	1
Painter	1	Painter in porce- lain	1
Bricklayer	1	Brass-worker	1
Varnisher	1	Unknown	2
Sailor	1		

Causes of suicide which were identified:—

	Male	Fem.	Total
Mental alienation	10	12	22
Bad conduct	8	1	9
Disgust of life	6	—	6
Misery	4	1	5
Robbers	4	1	5
Disappointed love	3	1	4
Loss of money	3	1	4
Quarrels and domestic Disappointments	1	3	4
Loss at play	3	—	3
Drunkenness	3	—	3
Result of quarrels	3	—	3
Incurable disease	2	1	3
Departure from, or sepa- ration of, family	1	1	2
Brain fever	2	—	2
Loss of wife	1	—	1
Embarrassed affairs	1	—	1
Result of remonstrance	1	—	1

Accidents leading to the submer-
sion:

Bathing	13
Drunkenness	8
Boating, or sailing	6

Falling from horses, while drinking	3
Playing on the shore	2
Fishing	2
Leaping near the river	1
Washing feet, saving others, storm blowing individual into water, &c.	4

On the whole, the greater tendency of the male sex than of the female in Paris, in 1836, to violent death is remarkable. It will even be observed that for one female who committed suicide for love, three males did so—a circumstance much opposed to the common notions on the subject.

VARIETIES OF THE *LOBELIA INFLATA*, DEPENDENT ON SOIL.*

"On a wet, clayey soil the *lobelia inflata* is a powerful poison, its narcotic power being then in great excess, and producing, in ordinary doses, the most alarming symptoms, continued vomiting, tremors, cold sweats, and death. The greatest value of the plant is in its administration in asthma, when grown on soils which develop its antispasmodic qualities in an eminent degree. Exposure to light deprives the tincture, or any of its preparation, of its antispasmodic power, whilst the narcotic remains. Great attention should be paid, in collecting the plant, to the proper locality, and also to the elaboration of the sap. It should then be dried in a dark room, tightly compressed in bundles, and kept in air-tight boxes in order to maintain its peculiar properties. When thus prepared, and after keeping for years, its narcotic powers become weakened, but the antispasmodic qualities are retained.

It is also emetic, expectorant, sudorific, diuretic, and sialagogous. The Indians have used it for centuries, combined with the *eupatorium perfoliatum*, and *ilex cassina*, as one of their best emetics for cleansing the stomach and head previous to holding their great councils."

So says Mr. Whitlaw, who, about 30 years ago, was in America, and took an interest in the matter.

* Lancet, May 20.

ON WOUNDS OF THE HEART. By Mr. LEES.*

Mr. Lees has collected from various quarters, and narrated from his own observation, many cases, illustrative of the effects of wounds of the heart. In this country, at this time, such wounds must chiefly interest us in their medico-legal relations. We shall content ourselves with a summary of the more striking facts.

1. Wounds of the heart are popularly considered to be instant death. They are not always instantaneously fatal, but in too many instances they are so. Take a case as a sample.

Case. Dr. Corrigan shewed Mr. Lees a preparation in his possession, of a wound of the right ventricle which was followed by instant death; the case was that of a bailiff who was stabbed in the belly with a long knife, by a person standing upon the stairs under him; the knife penetrated the diaphragm just below the seventh rib, entered the abdomen, and re-entered the diaphragm and perforated the right ventricle of the heart near the base.

2. The most interesting facts are those which establish the possibility of the individual's living for a short or a long time after the infliction of the wound. Mr. Lees cites some instances of this description.

Case 1. Ambrose Pareé states he witnessed a case where a person, after being wounded by a sword thrust in the chest, pursued his adversary for two hundred paces, and then fell dead; on examination he found a wound in the heart large enough to receive his finger, and a large quantity of blood effused on the diaphragm.

Case 2. Hennen, in his Principles of Military Surgery, quotes a highly interesting case of a soldier, who received a sword wound in the chest, and was left on an open staircase for five days, during severe winter time; he lived ten

days after being brought to hospital, and died of gangrene of the legs, caused by the extreme cold to which he had been exposed; on dissection it was found that the right lung had been wounded, the right-ventricle of the heart laid open, but this wound was perfectly cicatrized.

Case 3, 4, 5. Dupuytren was decidedly of opinion, that these wounds were not necessarily fatal; and in his *Leçons Orales* he alludes particularly to the case of a soldier, in whom, six years after the healing of a wound of the chest, a musket ball was found impacted in the substance of the right ventricle of the heart near its apex.

He also gives the case of a man, thirty-four years of age, who was brought to the Hôtel Dieu, May 5th, 1831, having received two stabs of a knife, one in the præcordial, the other in the epigastric region; there was no evidence that the wound had penetrated as the heart's action and respiration were regular, the patient complained but slightly, and auscultation and percussion discovered no morbid phenomena. He had, however, a general spasmodic trembling. He died on the 13th, with symptoms of diseased brain having been affected with tetanic spasms for two or three days previous to his death: there was a wound of the pericardium of three lines, which also penetrated the cavity of the left ventricle, the pericardium contained $\frac{1}{2}$ of serosity, and Dupuytren thought he might have survived if the head-affection had not supervened.

He also gives another case of a man who died mad, after attempting suicide by amputating the penis, and in whom six penetrating wounds of the right ventricle were found after death, although during life there were no symptoms indicative of such a lesion.

Case 6. In the Museum at Martinique is preserved a heart, with the end of a sword five inches in length impacted in it. The case was that of an officer, who in a duel received a sword wound in the right side of the chest, the point of the weapon broke, and the

* Dublin Journ. May, 1837.

seconds supposing it to have been lost in the grass, walked with him to the hospital, where he expressed so little uneasiness that the surgeon, supposing it to be a mere flesh wound, allowed him to return on board his ship, where he continued without any suffering the whole of that day, but at night very severe symptoms supervened, and he died next day; on examination, it was found that the point of the sword had passed through the right auricle, and wounded the left lung.

The preceding case is cited in illustration of Harvey's proposition, on the insensibility of the heart—a proposition supported by his celebrated case of the young nobleman. Mr. Lees quotes also the experiments of Mr. Carlile, Demonstrator of Anatomy at Trinity College.

“He mentioned to me that in his experiments on the motions and sounds of this viscus, he found that punctures of its substance affected its motions but slightly, and even on inserting tubes through its parietes into the cavities, though at first there was some slight palpitation, yet it soon accommodated itself to their presence; but he found that if he compressed the nerves going to its substance, by passing a ligature round the aorta and pulmonary artery, much suffering was evinced.”

3. Mr. Lees divides wounds of the heart into punctured and contused.

The former he subdivides into simple acupuncture—and punctures complicated either with a copious hæmorrhage, or with residence of a foreign body in the wound.

A. Of the first of these complications, the late Duc de Berri (who was assassinated at Paris in the year. 1820) afforded a remarkable example. He was stabbed in the right side, the right ventricle was pierced through, and the hæmorrhage into the cavity of the pleura was so considerable, as to oblige Dupuytren to open the wound every two hours while life lasted, in order to prevent impending suffocation; he lived in this state for seven hours.

B. “The second complication may be caused, either by a fractured portion of a rib, or by a part of the weapon

remaining in the wound. In the museum at Park-street, Mr. Thomas Hart had the kindness to show me a preparation of wound of the right auricle; and Mr. Wilkin, who was clinical resident in Stephens' Hospital at the time it occurred, has given me the particulars of the case. It was that of a brewer's man, who had fallen under a dray, when it was heavily laden, which passed over his chest, he was lifted up, and complained of pain and weakness, but was able to continue sitting on the side of the dray driving the horse for nearly an hour, when being in the vicinity of the hospital, he thought he might as well get himself examined; he walked in, and lay on a bed, but on turning on his side he suddenly expired. On dissection, it was found that the fifth rib was fractured, and that the extremity of one portion had penetrated the pericardium, but had freed itself from the heart; and this, as Mr. Wilkin observes, accounts for the sudden death of the man. For it is probable, that the portion of rib had filled up the wound of the heart, and thus prevented any hæmorrhage until his arrival at the hospital; when, on its coming out, the sudden effusion of blood into the pericardium caused sudden death; there had no blood escaped outside the pericardium.”

“As to those cases, in which part of the weapon remains in the wound, Orfila quotes an interesting observation in his *Medicine Legale*, of a workman who, in a melancholic mood, stabbed himself with a sharp stilet, between the fifth and sixth ribs of the left side, on the 24th of May. He was brought to hospital on the 26th, in a state of great collapse, the pulse small, intermitting, respiration hurried, great anxiety, and severe pain felt; on touching the wound, which was nearly cicatrized, but just below it, a peculiar thrill could be heard, or as it is expressively denominated a *crepitation onduleure*, similar to what can be heard in a varicose aneurism; the horizontal position caused great pain. On the 3rd of June he had severe rigors, followed by erysipelas of the face, and he died on the 13th, that is, twenty days after the receipt of the wound; on examination of the body,

the pericardium was found to contain ten ounces of fetid bloody serum; in the inferior third of the right ventricle was impacted an iron stilet, which, penetrating the septum, could be felt in the left ventricle."

c. The heart occasionally suffers from contusions of the thorax. In the last siege of Antwerp, by the French, some remarkable cases occurred in which this organ was severely contused, and ruptured without any external appearances of injury, either to the integuments or ribs, in which the death, in some cases instantaneous, was supposed to have been caused by the wind of the bullet. In some of the cases mentioned, a violent acute pneumonia supervened, in others death followed from an effusion of blood into the cavity of the pleura.

In some instances, though no obvious lesion of the cardiac structure was produced, the heart has suffered so violent a commotion as to cause the suspension of its contractions, and a state of syncope which has occasionally proved fatal. The following case was not mortal, but is curious.

"A case of this description occurred while I was at Paris, and as I knew the parties concerned, and saw the patient shortly after his wound, I can vouch for its accuracy. Two French students quarrelled at supper, they wished to settle their dispute on the spot, however as they were both very tipsy and infuriated we prevented them; the next morning they met, and as they were determined that one should die, their friends prevailed on them only to load one of the pistols, and then leaving both on the table, to draw lots as to who should take the first chance of the pistols, of course being ignorant which was the loaded one; it was loaded with four pellets. They then mutually felt for the point of the chest, against which at that moment each stroke of the heart told with increased violence, and pressing firmly against this part, they fired: one of them fell to the ground in a state of insensibility, but on examining him they found merely a slight flesh wound at the part to which the pistol had been applied, and with a little care he soon came to himself. I

saw him about three hours after this had occurred. He was then in a state of great anxiety which he could not account for, as he expressed more an unpleasant sensation of weight about his heart than actual pain; there was great tendency to fainting, the pulse intermitted, with severe palpitation of the heart; under proper treatment all these symptoms subsided, and he recovered perfectly in a short time. I consider myself peculiarly fortunate in having witnessed this case, for in affairs of this kind it is generally the right side which is wounded, owing to the position we naturally assume; and also, it exemplifies in a striking manner the power of compressed air in resisting the expansive force of gases."

We may not be astute, but we do not exactly see our way through the preceding case. However, Mr. Lees so positively vouches for its accuracy, that scepticism must necessarily be silenced.

4. The following generalizations are not unimportant, nor are the remarks appended to them unworthy of attention.

"All parts of the heart are not equally liable to be wounded, for in a series of fifty-four cases collected by M. Olivier, the right ventricle was the seat of the wound in twenty-nine, the left ventricle in twelve, both ventricles in nine, the right auricle in three, the left in one. The same author states, that out of twenty-nine cases of penetrating wounds of the cavities of the heart, only two proved fatal within forty-eight hours; in the others death took place at the varying periods of from four to twenty-eight days after the receipt of the wound.

These differences in the time at which death has occurred in individuals whose wounds have presented nearly the same appearances, as also why they are not immediately fatal, have been attributed to the peculiar disposition of the muscular fibres of this organ; for as the heart is constituted of layers of superposed fibres having different directions, if the instrument has divided a great number of its fibres in a transverse direction, the retraction will be consider-

able, and the probability of hæmorrhage much greater than if the wound ran parallel to these fibres; thus suppose the left ventricle to be wounded, there are three layers of fibres in its substance, the superficial and middle layer take one course, the deep layer takes an opposite direction, so that while one set of fibres are divided transversely, the others are merely separated longitudinally, and thus favoured the formation of a coagulum, causing an obstruction to further effusion; at the first merely temporary, but finally definitively; so that we may assume, that wounds which are parallel to the axis of the heart, are *cateris paribus*, less rapidly fatal than those which are transverse; and it is this action of the fibres which renders wounds of the ventricles less rapidly fatal than those of the auricles."

There are some other observations to which we do not deem it necessary to advert, as our object has been to arrange and present the facts collected by the industry of Mr. Lees.

TRANSATLANTIC SNUFF-CHEWING.

If Mrs. Trollope had given us the following portrait of a fine American lady, we should have set it down at once as caricature—"and something more." Even as drawn by an American physician, who evinces a laudable antipathy to European refinements, and an ardent republican admiration of his own country, we almost hesitate to credit the fidelity of the picture!

Dr. Caleb Ticknor, in a volume on the "Philosophy of Living," which is reprinted in the American FAMILY LIBRARY—a proof of its estimation beyond the Atlantic—favours us with the following observations on the use, or rather the abuse, of tobacco in New York.

"Could any one, entirely unacquainted with the unaccountable habits and propensities of man, after knowing the properties of tobacco, be made to believe that half the adult inhabitants of America, are passionately addicted

to its use? And were he told that America's fairest daughters use it too, would he not be perfectly incredulous? And were he told, further, that ladies of the greatest respectability, the most genteel and accomplished, in one of our largest cities, carry their little jars or boxes of snuff into the social circle, and, with a delicate ivory spoon, feed their *sweet* mouths with this most delicious and agreeable poison, would he not be petrified with astonishment? How delightful it must be to have an amiable spouse rendered doubly *sweet*, and bewitchingly interesting, and most charmingly stupid and idiotic, by the constant practice of *chewing snuff*; and what a fine example to children, of the pure, cultivated taste and self-control of the mother!"

Dr. Ticknor entertains a violent antipathy to all forms and modes of using tobacco, and certainly this novel mode of taking snuff is well calculated to foster the hatred of the celebrated weed. We apprehend, however, that the smoking of a pipe or a cigar of an evening, is not so pernicious as Dr. Ticknor imagines. The practice has greatly increased since the conclusion of the late war; but it must be acknowledged that temperance in wine and spirituous liquors has also increased—and, upon the whole, the change has been for the better. We shall take another opportunity of noticing Dr. Ticknor's work, as it is not a little curious that our countryman, Mr. Mayo, has adopted the identical title of the transatlantic author, and pursued a very similar plan—the size of the two works being almost exactly the same. We have not yet had time to compare the materials of the two publications.

MEDICINE IN INDIA.

There lie before us the numbers of the India Journal of Medical and Physical Science, for May, June, July, August, September October, November, and December, 1836, and for January, 1837. There can, we hope, be little reason now to entertain any apprehension of

its want of success. A Medical Journal is so obviously required, to bring the various members of the medical profession scattered throughout Indostan, in direct and ready communication with each other, that its advantages once felt, it will never be abandoned.

The Journal itself is conducted in a tone and with a spirit, well calculated to promote the object of its conductors and the advancement of medicine. We see in it no evidence of that truculent personality which has disgraced the pages of medical periodical literature, personality which for a time may augment the sale, but ruins the character, and ultimately destroys the influence of the journal in which it is permitted. Mr. Corbyn, the editor of the India Journal, feels what is due to himself as a gentleman, to his profession as a science, and to all medical men as his peers, and both his good feeling and sound sense, will tell him that their interests and their honour are his own.

The majority of the original communications in the India Journal, are on diseases which either so exclusively affect the residents in hot climates, or on those which are so much modified by high temperature and locality, as not to interest readers in this country. To such papers we will not refer, but simply cull a fact or an observation here and there from the pages of our valuable contemporary.

1. Operation for removing the Deformity succeeding Burns.

Mr. Chapman, of Purneah, has addressed a short communication on the best mode of operating for the removal of deformities succeeding burns of the arm and fore-arm. The following extract will explain all that is necessary.

"The appearance which this deformity presents is, I believe, always the same,—a thin but deep bridle of integument connecting the arm and fore-arm, and forming at the elbow an angle more or less acute.—In performing the necessary operation, little more seems to be required than a simple incision dividing the integuments fairly to the bend of the arm, and keeping up proper and continued extension,—such is the opinion of Dupuytren and others.—

Performing this operation by a single incision, cannot, I am persuaded, remedy this deformity to any great extent, as it will be almost impossible to prevent the cicatrix from again contracting as the wound heals. In one instance this took place in a patient under my care; I, however, subsequently adopted the operation I shall now detail; and which will be found to answer better than either of those proposed by Dupuytren or Mr. Roberts. It consists in making two incisions, so close to the arm and fore-arm as to include a portion of the normal integuments of both. An incision of this description, giving to the excised part a triangular form; a good deal of blood necessarily flows, but it is easily restrained by pressure. The advantage of this mode appears to be, that the arm is brought immediately to nearly its natural form, and the wound, while the healing process advances, is much less disposed to contract. Lint smeared with a little simple ointment to cover the raw surfaces is now used, and two fracture splints, on the arm and fore-arm, are to be applied with moderate pressure. I now come to that portion of the treatment on which depends the success of the operation. This consists in keeping up a proper degree of extension by suspending from the wrist a weight, of at first 15 lbs, and increasing the weight as the cure proceeds; at the same time binding at the wrist and top of the shoulder an elastic piece of bamboo band, drawing with a bandage the centre of it towards the bend of the arm; this is of much consequence, as it forms an antagonist power to the flexors, which the patient, to receive temporary relief from the suspended weight, constantly throws into action."

II. Hydrocele Treated by Injection with Iodine.

CASE. "John McEvoy, æt. 40: a man of sanguineous and nervous temperament, with light hair, blue eyes, and very fair complexion, admitted with fever, disordered bowels, and chronic hepatitis. He remained under treatment for these complaints till the 8th of December, when he was pretty well.

He showed me that day a hydrocele of the right side. The testicle could be felt distinctly somewhat larger than the opposite, and flattened, the epididymis swollen. The fluid began to collect about twelve months ago, and was the consequence of an inflammation of the testicle caused by his accidentally hitting himself with his own hand while playing at rackets. He had been leeches repeatedly and confined to bed for some weeks, but the testicle always continued a little painful. He now suffers no inconvenience except from the size of the tumor, and is anxious to be relieved—2lb. of a limpid fluid were drawn off by the trocar, and the emptied sac immediately injected with tinct. iodine zss. , aqua distil. ziii. , when the trocar was withdrawn.

Contrary to my expectation he did not complain of much pain at the time. The following day, there was active inflammation, the scrotum as large as before the operation, pain described as that of ant's stinging along the under surface of the the scrotum, and along the spermatic chord, no constitutional fever; bowels regular.

A cold saturnine lotion was directed and a dose of salts."

On the 22d, the testicles were of the same size, and he was discharged. The author of the case is very sanguine on the effects of the injection of iodine. He declares that out of 400 cases not one has failed. He thinks this method will supersede all others. Perhaps it may, but we are not sure of it. No one method is adapted for all cases.

III. *On Wounds incidental to Artillerymen, from the sudden Explosion of the Cartridge in loading.*

The following communication from Mr. Baddeley deserves the consideration of our naval and Military brethren. The accident to which it refers is not uncommon—

"In accidents of this nature, two men usually suffer, the Loadman and the Ventsman. In that occurring to the former, there is always considerable injury done to the forearm, the flesh of which is torn to rags, and the bones and hand shattered to pieces. It is also occasionally complicated with a frac-

ture of the humerus, amputation of the upper third of the fore-arm is generally called for (the humerus if broken, having been previously set,) and when performed soon after the infliction of the injury, no bad symptom need be apprehended.

The muscles on being cut, present a dark and discoloured appearance, as if severely bruised; and the surface of the stumps is irregular, owing to a loss of the contractile power in the fibre; for which reason also, the bones should be sawn higher than usual.

Minute splinters of the sponge staff and bits of cloth are apt to be forced into the substance of the integuments, and may cause considerable constitutional disturbance, which is much relieved by blood-letting and the application of cold water.

In that occurring to the Ventsman, the pad of the thumb may be ripped up, or the 2d phalanx entirely blown off, exposing the articulating process of the first, which sometimes requires to be sawn off, to admit of the lacerated integuments covering the extremity of the four, here the pain and inflammation is often considerable; the repeated application, therefore, of leeches and cold water, indicated.

In consequence of the number of such accidents, I think that the means of obviating their recurrence, may be considered a subject worthy of consideration.

It is customary to attribute their occurrence to the imperfect manner in which the vent has been served; in my opinion, and in that of many artillery officers, erroneously; for, in five cases I have been witness to, most of the ventsmen were invalidated in consequence of the injury done to their hands, and in two instances, the 2d phalanx was entirely blown off, clearly demonstrating the perfect manner in which the vent was served, and also the impossibility of preventing such accidents by this method.

We are hence induced to inquire in another direction, for the true cause of this serious occurrence, and are naturally led to consider the state of the cartridge itself. The *surge* or cloth used is of so open a texture, as to permit the fine meal powder to penetrate, and in

many instances to cover the outside of the cartridge, particularly after it has received a violent shaking in the carriage.

From this fact, it is easily conceivable, how instantaneously the slightest spark remaining in the chamber of the gun, could communicate with, and inflame, the whole.

It is observable too, that the accident rarely if ever occurs in battery, where the cartridges are made up as required, and suffer no concussion from carriage. The remedy then is only to be expected from using cloth of a more compact texture, or by steeping it in some composition that will fill up the interstices, without diminishing its pliancy. Should it not however be deemed advisable to adopt this means of preventing the occurrence altogether, the next point to be considered is whether some method may not be devised for preventing injury to the man who serves the vent:

For instance, instead of his thumb might not a *pad* be used, somewhat similar to printer's ink dabber, covered with sheep skin? This would answer two purposes; one to close the vent securely against fire from outside, the other as a substitute for the piece of tow now in use, for brushing away the dirt from the breach. And here, permit me to observe upon the custom of invaliding artillerymen, for the loss or injury merely of their *left* thumbs, which has been supposed to render them unfit for the performance of their duties in that service:

It is notorious that they are *still capable* of performing every duty connected with that branch, with the single exception of serving the vent with the thumb of their left hands. (However, were the pad used they would still be effective even for that duty.)

Those who advocate the system, can but adduce an extreme case, where two men only are left to serve the gun; but here, one must act as loader, while the other primes and fires; and should he feel disposed to serve the vent at all, he does so with his *right* thumb; for he stands on the *left of the trail*, as matter of course, so that there is *no reason* for considering such a man inefficient."

IV. Mode of treating a severe Wound of the Tongue.

This case is reported by Mr. Jackson, surgeon to the 8th Light Cavalry.

Case. "J. L. J., a lively active child, was very busy on the morning of the 15th of August assisting the bearers to air the clothes, furniture, &c. &c. He took up a book and was running with it towards the house, when his foot slipped, on a green patch caused by the rains, near the pukka step, and his chin coming against it his tongue, which must have been partly cut at the time, was forced with great violence against the upper teeth (which were loosened by the concussion) and almost cut through its anterior third, opposite the *frænum*. The wound, being of a contused as well as of an incised kind, did not bleed much, but on desiring the little patient to put out the tongue for the purpose of examining it, the anterior part fell quite over the lip, and the edges of the wound receded so much, that the end of the little finger might have been introduced into the cleft.

This effect must have been produced by an irregular action of the anterior fibres of the *genio-hyo-glossus* muscle, which were no longer counteracted by the *lingualis*. However that may be, I was quite satisfied with a short inspection, and directed the boy to draw the tongue within the mouth, keeping it open for a few seconds, that I might see the effects.

I was delighted to find that, in this situation, the flap, if I may be allowed to call it so, exactly filled up the hollow space, and the only thing to be done was to keep the parts in apposition, and do as little as possible, till union took place, and nature completed her own cure.

I therefore bandaged up the lower jaw to keep all quiet, told my little restless but sensible patient that he must on no account speak; and having procured a swan quill, I cut it into a proper shape for him to suck liquid through it. This was rather troublesome, as on his first attempt he succeeded in blowing the victuals in the contrary direction to his mouth, but by a little patience, he was soon taught enough of

pneumatics to make a vacuum with his lips and thought it excellent fun. On the following morning, I ventured to look at the wound; with fear and trembling, which I did, by telling the boy to open his mouth without making any other kind of motion, and was glad to find that the wound looked well. On the third day it had quite closed, leaving a red bloody line, and in a week nothing was discernible except a line not thicker than a hair. For several days I enjoined silence to keep the tongue as quiet as I could, and in so young a child, this was a matter of no small difficulty; with the temptation of bearers and servants of all descriptions trying to amuse him. During the first twenty-four hours, however, I may say he scarcely uttered a syllable and expressed assent and dissent by motions of his head."

The usual directions for treating this accident lean too exclusively on the use of the suture. This case shews the propriety of an intelligent surgeon's always using his own eyes, and exercising his own judgment. It may convey a hint to other surgeons whose eyes and judgment are not always available.

REMARKABLE CASE OF CEPHALEA.

Mr. Jeffreys, whom we know to be an intelligent surgeon of Wisbeach, has related an instructive case in our contemporary, the *Medical Gazette*, of which the following is a condensed account.

E. Eldridge, aged 19 years, a seafaring man, was condemned to the treadmill, in the Elm work-house, where he worked from the 20th January till the 12th February, 1837, when Mr. J. saw him. He then complained of pain in the fore part of the head, occasionally remitting. There was some quickness of pulse, and whiteness of tongue, but no other febrile symptom. He was excused from duty for a week, when, being suspected of skulking, he was again remanded to the treadmill on the 20th. On the 22d this man still persisted that whenever he got up, the pain in his head recurred, or was ag-

gravated. He was now closely questioned, and it was found that he had similar head-aches on board H. M. ship *Dreadnought*, about a year previously. It was now believed that his complaints were not fictitious, though there was little appearance of any serious illness. None of the senses were affected, the bowels were regular—the appetite unimpaired, and the secretions natural, pulse 96, tongue rather furred, complexion ruddy.

April 1. The pain increased, and was more steady in the back part of the head, much aggravated by raising the head from the pillow, and the patient was evidently emaciating. The opinion of Dr. Whitsed was now requested, and it was noted that the pulse was 120, rather small—pupils dilated—tongue white—complexion sallow—body attenuated—much pain on raising the head—intellect and motive powers unimpaired. The head was shaved, and a large blister applied to the scalp. Antimony and digitalis.—12th. Slept well last night; but died suddenly this afternoon, as was believed in a convulsion.

On examination, the vessels of the *dura mater* appeared turgid. The inner meninges were also injected; but there was no infiltration. In the lateral ventricles there were found two ounces of clear fluid. The plexus choroides and lining of the ventricles were very vascular. On removing the tentorium, the left lobe of the cerebellum appeared to be much larger than the right, and on cutting into it a globular tubercle, an inch in diameter, was divided, it being of firmer consistence than the brain, but unorganized. The substance of the cerebellum around the tubercle was softened to the consistence of custard. In the centre of the tubercle was a minute cavity, looking as if it had originally contained a small coagulum. Time did not permit to examine the thorax or abdomen; but it is not likely that any organic disease would have been there discovered.

This is one of those instances (by no means rare) where we are at a loss to account for the paucity of symptoms during life, and the sudden occurrence of death!

SPIRIT OF THE FOREIGN PERIODICALS, &c.

BIOGRAPHICAL SKETCH OF THE LATE
BARON DUPUYTREN.

THE life of such a man as Dupuytren ought to be well known to every young candidate for professional fame, as affording an admirable example of what energy, perseverance, and ability will do. He was born of very humble parents, in the year 1772.

At the early age of twelve years, he was induced by an officer of a regiment which was quartered in his native village, to go to Paris. Here he became acquainted with the late M. Alard; and the two young fellow-labourers commenced and prosecuted their studies with the most devoted and unwearied zeal. They had but one paltry room between them; and this served for a sleeping, as well as an eating apartment. All the furniture they had, was a table, a couple of chairs, and one bed; and their cupboard was often but very scantily provided, even with the necessities of life. Dupuytren used to take great pleasure in his after-life, when in the zenith of his fame and success, to talk of the "*res angusta domi*," and various hardships which he had to submit to at the commencement of his career. He used to mention an anecdote of his being visited by the visionary enthusiast, Saint Simon, who had early perceived the vigorous talents of the medical student, and was anxious to make him a convert to his doctrines. After a long but ineffectual conversation, the *Saint* rose to take his leave; and, while Dupuytren's attention was withdrawn to another part, he took the opportunity of putting down a purse, containing 200 francs, in a corner of the apartment.

The proud spirit of the youth refused all such assistance, although he afterwards confessed that, at this time, his pecuniary means were scarcely sufficient to procure him the ordinary comforts of life.

It was in 1794, when he was only 17 years of age, that he first had an oppor-

tunity of giving proofs of ability, and an earnest of his future fame. At a public concours, he was appointed one of the "prosecuteurs," or anatomical demonstrators at the *École de Médecine*, then recently established by government. During the next five years he laboured most assiduously in the dissecting-room, and thus laid the foundation of that intimate knowledge of minute anatomy, which, perhaps, more than any other acquirement, served to render him, like Baillie, one of the greatest masters of diagnosis in disease. In 1801, he publicly contested with Dumeril for the place of "*chef des travaux anatomiques*," but lost it by only one vote. Six months afterwards, however, he was elected in the place of Dumeril, who had been raised to a professorship. He now commenced to lecture upon anatomy, physiology, and pathology. In 1802, Bichat, still in the flower of his age, died; and thus the field was left almost undisputed to Dupuytren, who had been educated in the same school, and had followed out the same method of investigation, as his immortal predecessor had done. In 1803, he was elected "*chirurgien de seconde classe*," to the *Hôtel Dieu*, the largest hospital in Paris. His rivals on this occasion were Roux, Tartra, and Hedeloffer. In 1808, he was made "*chirurgien en chef adjoint*," and three years afterwards Sabatier, the senior surgeon, having died, Dupuytren was appointed the colleague of Pelletan. At the same time he succeeded to the chair of *medecine opératoire*, vacant by the death of Sabatier, after a vigorous contest with M. M. Roux, Tartra, and Marjolin. The concours upon this occasion was one of the most animated and protracted, which has been ever known in Paris. For forty days, "*les concurrens furent tenus en haleine*;" they were required to give in written answers—in Latin as well as in French—to a multitude of questions proposed, to deliver extempore lectures on surgical and anatomi-

cal subjects, to perform operations on the dead body in presence of the examiners, and lastly, to write a thesis on a theme which had been given them.

Dupuytren had very nearly lost the election, in consequence of some delay in completing his thesis! He was generally a very slow composer, and at all times much fitter for the active practical duties of his profession, than for the meditative occupation of the study.

He was now a prominent man in the eyes of the public; surgeon of the Hôtel Dieu, and professor of operative surgery at the Ecole de Médecine. Soon after his appointment as one of the chief surgeons to the Hôtel Dieu, Pelletan withdrew, in consequence, it was said, of frequent quarrels with his junior colleague. This is not unlikely, as Dupuytren was, naturally haughty and ambitious; and all who know him, were well aware that he never could endure a rival near his throne. While yet a boy, he was fond of repeating Cæsar's saying, "that he would rather be the first man in his own village, than the second in Rome;" and throughout his after-life, the Napoleon of surgery (as Bouillaud calls him) seems to have always acted on this rather unamiable maxim. The energy, the unceasing assiduity, the devotedness of zeal, and the eminent ability with which he performed the duties of chief surgeon of the Hôtel Dieu are above all praise. He spent between four and five hours there daily, visiting and minutely examining his patients, performing operations, superintending dissections, and lecturing. His first visit was usually paid about seven o'clock in the morning, and he seldom failed to return in the evening, to watch the progress of the more interesting cases. Most faithful reports of all these were drawn up by the "internes," and afterwards corrected and arranged by himself. There are at the present time upwards of 700 thick folio volumes of these reports, the cases being all arranged in alphabetical tables, preserved at the Hôtel Dieu!

In making his rounds through the hospital, he was generally reserved and taciturn; spoke little, and that little

not in the most urbane manner, to the students. In all his actions, and upon all occasions he was the same calm, imperturbable being; ready and prepared for every emergency, never taken by surprise, or moved by any unforeseen danger. "Cette paix, ce calme de l'esprit, ce premier élément de tout bonheur, cette divinité de l'épicurisme, Dupuytren le cherchait en tout. Aussi, dans ses leçons, dans ses opérations, rien n'était remis à la fortune; tout était mûri, calculé, approfondi, prévu."

If there were any unusual symptoms in a case, if the diagnosis was obscure and uncertain, he refrained from giving any opinion at first; he hesitated for some days, thinking and reasoning upon it; and when at length he had arrived at some satisfactory conclusions, his clinical lecture on the subject was a model of excellence, full of impressive thought, and stored with the soundest practical wisdom.

Dupuytren was unquestionably one of the most *medical* of all surgeons. It was not the *art* alone, it was the *science* of surgery, which he explored so much more deeply than his contemporaries. Having his mind enriched with the most consummate knowledge of general and descriptive anatomy, and being intimately acquainted with the whole range of physiology and pathology, he took an enlarged view of every case, tracing it back to its source, discovering the cause which had produced it, the effects which the constitution, temperament, or casual circumstances had occasioned, the changes which it had already produced, and the probable event of its progress and termination. Although one of the most accomplished operators of his time, he never sought for occasions to display his dexterity; it was a greater triumph to him to supersede the necessity of an operation, than even to have performed it well. In the use of the knife, he was always cool and calm; bold and rapid when there was no uncertainty or possible chance of mistake, as in performing amputation of the limbs, and the excision of certain tumors; slow, but steadily sure in the more delicate operations of his art.

No casualty ever disturbed his equa-

nimity. On one occasion he had the misfortune to open an aneurismal tumor, supposing it to be an abscess.—Without hesitation and embarrassment, he at once proceeded to tie the artery higher up—the case did well. Every one has heard of the case of sudden death about sixteen years ago, during the excision of a large tumor from the neck of a young woman: the air entered the external jugular vein, and the girl, after uttering a few moans, died on the table. Dupuytren was the operator: “il est jeté dans une méditation profonde; le malheur devient pour lui le texte d’une des plus belles leçons qu’on ait jamais entendues: l’apropos l’inspirait; le sujet avait saisi les esprits; et surmontant ainsi son propre trouble pour expliquer cetragique événement, il rejette sur les capricieuses lois de la nature ce que la malignité eut imputé à son imprudence.” Dupuytren was remarkably adroit at reducing dislocations. No one knew better how to divert the attention of the patient, and thus to take off in part the resistance of the muscles. We shall mention only one case.

A woman was brought into the hospital with dislocation of the shoulder. Several unsuccessful attempts to reduce it had been already made. Dupuytren, when the apparatus was ready began to question the patient how she had met with the accident, and as she was answering, said, “your son told me you were drunk at the time.” “A ces paroles, la mere indignée tombe dans une sorte d’anéantissement, et le bras est remis.”

The immense private practice, which Dupuytren enjoyed, increased the sphere of his observation.* He was the “fa-

cile princeps” of his time. His reputation was not confined to his own country; it was European. Patients from all parts of the Continent came to Paris to consult him.

He was honoured with the confidence of two kings, elevated to the rank of a Baron, decorated with various titles of distinction, and courted and caressed by the most lofty and distinguished of his country. “Que manquait-il donc,” exclaims his eulogist, “à son bonheur. Mais le bonheur n’est point dans la situation; il est dans le caractère; et Dupuytren n’était pas né pour être heureux. Tout ce qu’il avait souhaité, il l’avait à profusion; et n’y sentait que vide et desespoir.”* in 1833, his health suffered a severe shock; and in the following Spring he was induced to travel into Italy. At Rome he met with M. Esquirol, who observing the restlessness and impatience of his colleague to return to Paris, asked of him the reason. “Qui vous presse?—Je songe à Hôtel Dieu, répond Dupuytren. Vous l’avez laissé dans d’habiles mains, reprend Esquirol. Qui, réplique Dupuytren, mais mon devoir.” He soon returned to Paris; but it was only to linger out a few months of suffering. He died in the February following at the age of 57. On dissection, a considerable effusion was found in the cavity of the thorax, and the brain exhibited some traces of “foyers apoplectiques.”

The fortune which Dupuytren had amassed was immense; equal perhaps to what had ever been made by professional exertions. It amounted to nearly £250,000. He bequeathed the sum of £10,000. to the establishment of a museum, and a professorship on pathological anatomy.

We have not alluded to the writings of Dupuytren. He has not done much himself as an author. With the excep-

* Besides his private and hospital practice, Dupuytren had ample opportunities of studying gunshot wounds, and the other casualties of military surgery, in 1814, when he was appointed surgeon to his wounded countrymen, after the battle of Montmartre. The “glorious days” of July 1830 also furnished him with a vast field for displaying his consummate surgical abilities.

* We suppose that M. Pariset alludes to the domestic infelicity of Dupuytren. His lady, it appears, left her home;—and from that hour, the haughty spirit of his temper seemed to have taken on all the austerity of a misanthropic melancholy,

tion of some memoirs on fractures of the fibula, on artificial anus, on calculus and the operation of lithotomy, and of several reports and "eloges" delivered at the Academy, we must look for the record of his doctrines and practice in the writings of his pupils and associates—in the *Repertoire d'Anatomie* of Breschet and Royer Collard, in Sanson and Begin's edition of Sabatier's *Médecine Opératoire*, in the great work of Roche and Sanson, on *Médecino-Chirurgicale Pathologie*, in five volumes, and in his own *Lçons Orales*, published by Buet, Briere de Boismont, Marx, and Paillard.

BIOGRAPHICAL SKETCH OF THE LATE BARON DESGENETTES.

Desgenettes was born in 1762, at Alençon. He studied at Montpellier, at that time by far the most celebrated school of medicine in France, and acquired there considerable reputation by a very able thesis on the anatomy of the lymphatic system. In 1793, he entered the military service of his country, and being sent to Frejus, he there, for the first time, met with "le petit cannonier, un fier militaire," the young Buonaparte. Three years afterwards, he accompanied the fleet, which carried "un autre Cæsar et sa fortune," to the shores of Egypt, as chief physician of the forces. The zeal, the courage, and professional skill, with which he ever fulfilled the duties of his arduous situation, are well known to the world. It was from him, as much as from the General himself, that the army acquired that spirit of dauntless bravery and intrepid endurance, which carried them along victorious through the sickly plains of Egypt and Syria. The soldiers had been greatly alarmed by the reports of the dreadful contagiousness of the plague. Desgenettes perceived at once the necessity of calming their fears, by one bold and decided step. For this purpose, he had recourse to an expedient, "aussi sublime que périlleux"—that of inoculating himself with the virus from a pestilential bubo, in

presence of them all. He escaped the infection; and thus by a single daring, and most hazardous experiment, he not only dissipated the fears, but acquired the unbounded confidence of the whole army.

It was soon after this, that he had another opportunity of exhibiting a nobleness of character, which cannot be too often mentioned, or too warmly eulogised—we allude to his conduct on the occasion of Buonaparte's proposal to administer opium to the dying soldiers at Acre. We shall give the anecdote in Desgenettes's own words. "The General summoned me to his tent very early one morning. He was alone, with his chief aide-de-camp. After a short preamble, he said to me, 'were I in your place, I should be inclined to put an end at once to the sufferings of the plague-patients, and to the danger of their infecting the rest of the troops, by giving them opium' I answered simply, my duty is to save." *Mon devoir, a moi, c'est de conserver.*

Upon this, the General proceeded with the greatest calmness to explain the motives of his suggestion, saying that what he advised for others, he should certainly wish might be done to himself, were he similarly placed. He alluded, also, to the probable fate of his unhappy soldiers, if they were left to fall into the hands of the merciless Turks.

In conclusion, he said, 'I do not wish to overcome your scruples, but I shall probably find other persons, who will better appreciate my intentions.'

General Berthier was present during this conversation; he remained silent; but afterwards he cordially approved of my conduct on the occasion.

It was not, until after our return from Jaffa, that the opium was administered to between 25 and 30 of the sick soldiers. Some of them rejected it by vomiting, and ultimately recovered."

Desgenettes remained in Egypt with the army, after Buonaparte had made his escape to France. In 1802, he returned to Paris, was cordially received by the First Consul, and appointed by him Chief Physician of the Military

Hospital, and Inspector General of the Army. About the same time he published his "*Histoire Medicale de l'Armée de l'Orient*,"—a model of historical and professional description.

In 1805 he visited Spain, for the purpose of examining the epidemic fever, which raged at Cadiz and Malaga; and in the following year, he accompanied the French army in their memorable campaigns in Prussia, Poland, &c.

He was present also in the unfortunate expedition to Russia, and on one occasion at Moscow, displayed to his master the same firmness and independence of spirit, which he had shewn ten years before in Egypt.

Buonaparte had ordered the Foundling Hospital of Moscow to be converted into barracks for the troops.—Desgenettes remarked to him that he feared that posterity might compare him to Herod. "Herod," exclaimed the Emperor, "how Herod! What has he to do here, and in what can I be like him." "In the massacre of the innocents," replied Desgenettes.—The answer was a happy one, for the order was immediately countermanded.

In the disastrous retreat from Russia, Desgenettes was taken prisoner; but he was liberated soon after by the special orders of the Emperor Alexander. He was present at the battle of Leipsic. The Bourbon Government seems to have been unfriendly towards him, as he was deprived of several of his posts upon their first restoration.

During the "Hundred Days," Desgenettes was appointed by Napoleon chief physician of the army and of the Imperial Guard; and accompanied his master to the fatal field of Waterloo.

He was again in disgrace, when Louis was a second time raised to the throne of France; but in 1819, he was recalled, and made one of the Council of Health for the army.

During, however, the preceding four years he had been most zealously engaged in fulfilling the duties of Professor of Hygiene of Medical Physics to the Faculty of Medicine in Paris. His vast erudition, his zeal and energy, and eloquence of his language, attracted universal admiration.

In 1822, he along with ten other professors,* was deprived of their chairs by a most iniquitous act of the government, when the ordonnance for the suppression of the Faculty of Medicine was issued.

In alluding to this event in the history of Desgenettes, his eulogist, M. Bouillaud, cannot refrain from breaking forth in most oratorical indignation. "Illustrious victims, bear up against this cruel trial. He who presides over the destinies of the world will not permit that the sacred laws of justice should be long violated with impunity, and he will teach, in due season, the kings of the earth themselves, many a sore and bitter lesson."

This allusion points to the "glorious revolution of July," when Desgenettes and the other ejected professors were restored to their dignities. He continued for several years to perform the duties of his chair, although now upwards of seventy years of age. During lecture one day, he was struck with a slight attack of apoplexy, "*comme un general est frappé d'un coup de feu sur le champ de bataille*;" and although he recovered after a few weeks, he never resumed his professional labours.

He occupied his spare time in writing memoirs of his interesting and most eventful life, of which the third volume has recently appeared. His health, although infirm, continued to be tolerably good until the month of last February, when he most suddenly had another attack of apoplexy; from which he never recovered. "*Mais el est temps de vous saluer d'un dernier adieu, venerable collègue. Adieu donc, trois fois adieu, O Desgenettes! Puissent vos précieux restes, se ranimant un instant, n'être pas tout-a-fait insensible aux accents d'une voix respectueuse et dévouée.*"—*La Presse Médicale*.

* Among the ejected professors were Pinel, Chaussier, and Jussien. The conduct of the French Government appears to have been most arbitrary and impolitic.

INFLAMMATION OF THE SPINAL MARROW.—ALLEGED FREQUENCY OF THIS DISEASE IN AGUES.—GENERAL REMARKS ON ITS MORE PROMINENT SYMPTOMS.

A middle-aged woman, of a robust and plethoric habit, had been exposed to wet and cold, while in a state of free perspiration. Two or three days afterwards she was seized with shiverings, and the usual signs of pyrexia: to these were added pricking and shooting pains in the lower limbs, with occasional convulsive twitches and violent dartings, which the patient compared to smart electrical shocks. When these symptoms abated, the limbs were benumbed, and almost quite powerless. Pain, accompanied with a sense of great heat, was felt along the whole tract of the spinal column.

The breathing became, in the course of a few days, difficult and uneasy; and the upper limbs were affected, although to a less degree, in the same manner as the lower ones.

The physician, who first visited the patient, had viewed her case as one of rheumatism, and the practice, which he had followed, had not been attended with success. She was taken to St. Peter's Hospital at Brussels, and put under the care of Dr. Mons, the chief physician. All the symptoms above described were present at the date of her admission; the pulse was small, rapid, and sometimes irregular; and the breathing had become much more oppressed than hitherto. The slightest pressure over the dorsal and lumbar vertebræ occasioned severe pain and an aggravation of all the symptoms. A large quantity of blood was taken by cupping over the most tender parts of the spine, and the bowels were briskly purged. This treatment required to be repeated several times, before the cure was completed.

Case. 2. A young man had, three weeks before his admission into the hospital, been suddenly seized with a violent fit of shivering, which had supervened without any apparent cause. Soon afterwards he experienced severe

pain in the back, cramps and a sense of pricking and stretching in the lower limbs, which were at the same time benumbed and so useless, that he could not stand unsupported.

These symptoms ceased altogether in the course of an hour or so; but the patient was left in a state of great depression and weakness. Two similar attacks returned within the course of the following fortnight. The present—the fourth—attack has been the most severe of all, and was at first accompanied with symptoms of gastritis. This attack did not cease spontaneously.—[It is observed in the report, “la maladie intermittente etait devenue quotidienne.”] The spine from the eighth dorsal to the lower lumbar vertebræ was found to be very painful, when pressed upon. Ten cupping instruments were applied, and a large quantity of blood was thus withdrawn. A few doses of purgative medicine completed the cure.

A third case of Myelitis is given. The symptoms were not so well marked as in the preceding two instances. A youth had for about six weeks been suffering from flying pains in his legs, especially about the knees, and in the back. He could not walk, nor even stand alone, without support. The toes and fingers were affected with spasmodic twitchings. The general health was much deranged, as appeared from the utter loss of appetite, feverishness, slight diarrhœa, &c. On examining the back, pressure over the lumbar vertebræ was found to give great pain, and to aggravate all the unpleasant feelings in the limbs. By applying cupping-glasses to the back, and leeches to the anus, along with the use of aperient and diaphoretic medicines, the boy was quickly relieved of all the unpleasant symptoms.

In the following two cases, the inflammation of the spinal marrow was coexistent with intermittent fever. It appears that the Belgian physicians have of late observed this complication very frequently, and some of their writers have suggested that many of the most obstinate cases of ague are very generally associated with, if not more immediately dependent upon, an in-

inflammatory affection of the modulla spinalis; and that they are more quickly and effectually relieved by local remedies applied to the spine than by any internal medication.

The first case, which we find reported, was one of no great severity, and does not therefore require to be given in detail. The second one was much more severe. A man, 55 years of age, had during a period of eight months experienced repeated attacks of tertian ague. When admitted into the hospital he had been suffering upwards of three weeks from regularly recurring paroxysms, in spite of the free use of quinine, and of other remedies. There were present symptoms of slight gastro-enteritis, attended with occasional attacks of pain in the abdomen, so acute that they forced the patient to bend himself double during the paroxysm. These attacks usually subsided on the expulsion of a quantity of wind from the bowels. From the abdomen the pain appeared to extend down along the lower limbs, following the line of the sciatic nerves, and causing convulsive twitches, and a sense of pricking and dragging in both legs.

On passing the finger along the spine, that portion of it from the tenth dorsal to the fourth lumbar vertebræ was found to be very tender.

One large cupping, and the use of appropriate remedies for the relief of the gastric irritation, quite dissipated all these unpleasant symptoms, and appeared to cure the ague at the same time.

The preceding cases are drawn from the Clinique of Dr. Mons at the Brussels Hospital. In the same number (for last October) of the Bulletin Medical Belge, there is a communication from Dr. Steyls of Lacken, on the continued and intermittent fevers of that place. He alludes in a very pointed manner to the great frequency of a fixed pain at some portion of the spine, generally over the lower dorsal and upper lumbar vertebræ, in the severe and protracted cases. Very frequently, perhaps generally, this symptom is of purely nervous origin and ceases spontaneously; but in some instances it be-

comes chronic, and there is apt to be associated with unpleasant abdominal disturbance, with dyspnoea and cough with intense headache, and occasionally with neuralgia of the sciatic and other nerves. Under these circumstances, an intermittent fever is very apt to become of a remittent or even of a continued form, the type being at the same time alarmingly adynamic.

In such a case we may have reason to suspect that a subacute inflammation of some portion of the spinal cord is present, and that this complication is in truth the cause of the extreme obstinacy of the irregular pyrexia. We are not aware that the coexistence of Myelitis with certain forms of intermittent fever has been particularly noticed by any author; and as this species of inflammation has probably not been much studied by the bulk of medical men, in consequence of the obscurity of its symptoms, it may be useful to describe briefly its more prominent character.

Myelitis is much more frequently of a chronic than of an active or acute form. The symptoms of the latter are usually so distinct and well-marked, as to lead the physician at once to a correct diagnosis of the case. There is pain, sometimes sharp, but more frequently of a dull oppressive character—except on sudden motion or on firm compression of the part—at one part of the spine. From this point, it extends upwards and downwards, and is accompanied with general malaise, and with a very marked diminution of all the physical energies. The pain is always aggravated by pressure with the finger, and often also by applying a sponge or towel wrung out of hot water over the part.

The brain generally sympathises very soon with all affections of the spinal marrow—hence the headache, confusion, giddiness, disturbance of vision, and other symptoms, so characteristic, it has been commonly supposed, of cerebral diseases, that the real seat of the morbid action is often overlooked. In all cases, therefore, where the usual train of head-symptoms has been present for a length of time, it is proper to

have our attention directed to the state of the medulla spinalis, by a very careful examination of the vertebral column. The movements of the extremities, more especially of the lower ones, are almost always more or less disturbed, whenever the spinal marrow is inflamed.—The patient experiences either a dull numbness in them, or sharp darting pains in different parts, extending often along their whole extent. There is no outward or visible marks of any local affection in the limbs themselves; there is no redness, or heat or swelling.—The pain is often not constant; but recurring in sharp paroxysms; and very generally it is much more severe along the course of the large nerves, and more especially at the extremities of their branches, than in other parts. Hence the ankles and the feet are more frequently complained of, than the legs, or the thighs.

When the upper extremities suffer, there is usually a co-existent affection of the respiratory functions. The patient finds his breathing uncomfortable and oppressed; there is cough, either slight or moist, or very shrill and loud, and not accompanied with expectoration. The dyspnœa often becomes suddenly aggravated in paroxysms, which last for a longer or shorter period of time. These paroxysms may have all the severity of an attack of angina pectoris—there is an insufferable pain at some part of the chest, which the patient, however, cannot point out distinctly; he feels as if he could not draw in the air, and he gasps with most ineffectual attempts.

On examining the chest by auscultation, there is often no irregularity either of the breathing, or of the heart's action discoverable. The attack, therefore, may be considered as of a purely nervous character. Even when, under such circumstances, the primary seat of the disease is not in the spinal marrow, but is altogether in the thoracic viscera, great relief may be obtained by applying counter-irritant remedies to the upper and middle part of the vertebral column. A blister to the nape of the neck, or between the shoulders, will act much more powerfully in relieving

this description of dyspnœa, than if it was applied to the sternum or side of the chest.

In practice we often meet with cases of most troublesome cough, unconnected apparently with any positive disease of the chest, where the ordinary remedies altogether fail of affording relief. The cough is shrill, loud, and barking; sometimes it is so severe, that the paroxysms resemble those of genuine pertussis. Such cases are not unfrequent in young unmarried females.—By far the best remedy is a blister between the shoulders, and the internal use of some deobstruent purgative, such as the decoct. aloes composit; alone or with an alkali. In truth, many cases of chronic dry catarrh, of chorea, hysteria, and of asthma, are, if not directly cured, greatly modified, and much aggravated by the co-existence of spinal irritation.

We have not yet alluded to the abdominal distress which usually accompanies chronic myelitis. The most common symptom is a sensation of gnawing, uneasiness, and sickening anxiety, at the præcordia; accompanied sometimes with a very troublesome vomiting. It seldom amounts to a sharp or pungent pain, except when it is seated lower down; and then it is not unfrequently mistaken for genuine colic.—The bowels are usually more or less constipated: there is little or no appetite; the bowels are oppressed with flatulence, and the abdominal surface is often tense, hard, and knotty.

The secretion of the urine also is often much diminished, and the quality of the urine is, at the same time, very much altered. It is apt to be thick, loaded with mucus, has often a peculiar offensive smell, and is likely to become more quickly putrid than usual. It was Sir Benjamin Brodie, we believe, who first distinctly proved that the urine generally acquires a strong tendency to the phosphatic dyscrasia after injuries of the spine. The same phenomenon is frequently observed in cases of chronic inflammation of the marrow.

EXTRACTS FROM, AND REMARKS UPON,
M. BOUILLAUD'S CLINIQUE.*Typhus Fever, or Enteritis Folliculosa.*

M. Bouillaud belongs to that section of the French School, who can perceive nothing in typhus fever, but inflammation and ulceration of the gastro-intestinal mucous surface. This very partial and exclusive doctrine is not likely to be ever adopted in this country with so much indiscriminate zeal as it has been for some years past, and still is, in France. It has been very justly remarked, that the physician might with equal propriety regard the mere cutaneous eruption of the exanthemata as constituting the real essence of these fevers; as if the affection of the skin in such diseases as small-pox, malignant scarlatina, &c. was the formidable enemy which we had to encounter, and as if any application to it could suffice to overcome the malady.

No less absurd is the doctrine of some of the continental physicians on the subject of typhus fever. It would seem from their description, that in all cases the mucous lining of the stomach or of some part of the intestines is primarily inflamed, and that the mucous glands in different parts, and more especially near the extremity of the ileum are always swollen, reddened, and ulcerated; that these lesions form, so to speak, the primary elements of the disease; that all the constitutional disturbance, such as the depression of the muscular powers, the pyrexial symptoms, the delirium, the coma, &c. &c. are merely the result of the abdominal affection; and therefore that the grand therapeutic indication is to subdue the inflammation, and to heal the ulceration of the gastro-intestinal membrane. For this purpose venæsection is to be practised: leeches in great numbers are to be applied repeatedly to the abdomen; acrid purgatives are to be avoided; nothing but soothing drinks, and emollient ptisans are to be administered; and the internal use of the chlorides is strongly recommended, with the view of checking the inflammation, and of

healing the ulcerations. The use of blisters to the calves of the legs is also a favourite practice of M. Bouillaud. Such is the treatment pursued and lauded to the skies by him; and so boastful is he of his extraordinary success, that he tells us that he now looks upon typhus fever as quite as easily curable as a mere ordinary catarrh.

Either typhus fever must be of an unusually mild character in Paris, or M. Bouillaud classifies many cases under this head, which other physicians would have excluded.

There are numerous feverish states of the system, occurring more especially in the lower orders, dependent upon exposure to cold, irregularity or deficiency of diet, to which we may add mental affliction or agitation, which will speedily recover of themselves under the soothing effects of rest, appropriate diet, and the restrictions of a well-conducted hospital. Such cases must be of very frequent occurrence in such a metropolis as Paris, where there is continually such an influx of strangers from the country and from other parts, and many of whom are exposed to the predisposing and exciting causes, mentioned above.

Our suspicions on this head are in some degree confirmed by the remark of M. Bouillaud in a former clinique, where, treating of gastro-intestinal affections, he classifies them under four heads—"embarrass gastrique," "gastro-duodenite," "gastro-enterite," and "enterite folliculeuse." The reader will readily perceive that a vast number of cases may be arranged under these denominations, which have little, or no resemblance to typhus fever.

Intermittent Fever and Neuralgia.

Of late years, M. Bouillaud has tried very extensively the use of full doses of Digitalis in this form of fever. He gives it inwardly; and also applies it outwardly, by sprinkling a blistered surface (usually over the spleen) with eight or ten grains of the powder. Out of six cases narrated in one of his recent reports five recovered very quickly un-

der this medication. One resisted its effects, and was afterwards cured by quinine.

We must confess, that we are quite at a loss to conjecture either the motive of M. Bouillaud in using digitalis for the cure of *agues*, or the mode in which he can suppose this drug can act in relieving such cases. Who, but a zealot for every thing novel and uncommon, would ever think of giving large doses of foxglove for a disease, which every one knows may be readily and safely cured with two or three scruples of quinine? But as there is no accounting for taste in other matters, so we cannot pretend to divine the motives which rule the practice of some physicians.

His treatment of *neuralgic* affections by the endermic method is much more rational. He tells us that he has succeeded in curing a number of severe cases by sprinkling the excoriated surface of the affected part with muriate of morphia. He usually commences with a fourth or third part of a grain, and increases it to one or even to two grains. This practice he continues for a week or two.

In many cases of *palsy* too he has tried the endermic treatment with great benefit. Strychnine is the substance which he generally use in such cases. The internal administration of this very powerful medicine, at the same time, is often of very decided advantage. No case should be given up, until a very fair trial of the strychnine, both internally and externally, has been given. M. Bouillaud assures us that he has often succeeded under the most discouraging circumstances, and mentions particularly the case of a very old man, in whom the internal use of the medicine was for some time of great benefit, but gradually seemed to lose its effect; and then the endermic method was employed with the most gratifying results.

In some very obstinate case of *singultus* or hiccup, M. Bouillaud has had recourse to the endermic use of the muriate of morphia over the region of the stomach with very admirable effects.

Our author passes on to the consideration of affections of the *heart*, and commences with the subject of pericar-

ditis. He reiterates his oft-repeated assertion, that almost all cases of pericarditis are of rheumatic origin, and that almost every case of severe arthritis is accompanied with a greater or less degree of this disease. The pericardium, he says, is in every respect analogous to a synovial bag; and by this alleged analogy of structure he accounts for the very frequent coexistence of pericarditis with articular inflammation. Like almost all the other favorite doctrines of M. Bouillaud, this one must be received with much reserve. It is quite *correct* in part, or to a certain extent; but most assuredly it is quite *incorrect* when carried to such "outrance," as he does. Another pet idea of his respecting inflammatory affections of the heart is, that in almost all cases of pericarditis there is co-existing endocarditis, or inflammation of the lining membrane of its cavities. There is much obscurity on this subject as yet; for hitherto it has not been examined by the more cautious pathologists of the French School, or by those of our own more phlegmatic and slow-going country, with very minute attention. M. Bouillaud is far too hasty an observer, and too rapid a reasoner, to carry much weight by himself. He certainly however deserves considerable credit for having directed the attention of physicians to the state of the endocardium, as well as of its analogue, the pericardium.* Whenever the endocardium is inflamed, there is induced a strong tendency in the blood within the heart's

* We recently observed the announcement of an English translation of M. Bouillaud's late work on Diseases of the Heart. We trust, for the sake of the translator's finances, that he does not propose to give the entire substance of M. B's very prolix volumes in an English dress. The book will never sell to pay the printer's expenses. Dr. Hope's excellent work, and the last published number of Dr. Copland's Dictionary, may quite supersede the French Treatise.

This timely caution may save the translator much expence, as well as annoyance. If he does persevere in his

cavities to coagulate; and as there is usually a slight exudation of lymph from the affected surface, we cannot be surprised that, in such cases, we usually meet with large and seemingly organised clots adhering to the walls of the ventricles, on dissection.

Erysipelas is another of those diseases, on which M Bouillaud takes great pleasure in descending; as it gives him a constant theme for exultation at the extraordinary success, which attends his practice. This may be at once presumed to consist in large and repeated bloodlettings. He acknowledges that many cases of this disease are accompanied with symptoms of typhoid and not of synochal fever; but, in spite of this, he insists upon treating all cases alike: "tous sont guéris rapidement par les saignées répétées."

The only purely nervous disease, mentioned in the Clinique, is chorea. His practice in this disease consists in the use of cold douche baths, the exhibition of musk and assafoetida in enemata, and the use of the Pilules de Meglin inwardly. He makes no allusion to the effects of steel in this disease.

It is certainly by far the most efficacious remedy, after the proper evacuation of the bowels by active purgatives. When once the state of the digestion is healthy, we should, without delay, commence the use of the carbonate of iron, and increase the doses, until a cure is effected.

INCREASE OF SUICIDE IN PARIS, POISONING FROM COLCHICUM, &c.

M. Charles Dupin, in his late discourse (unpublished), has alluded to the melancholy increase of this crime in the French metropolis. He attributes the fact to the unsettled condition of the public mind, and to the frequently re-

curring states of political excitement. The following table exhibits an almost regularly progressive increase during the last six years.

In 1830 269 Suicides.

1831 377

1832 369

1833 338

1834 436

1835 477

It is interesting to ascertain the age, at which the crime of suicide is most frequently committed. Annexed is a table, which affords some useful data to determine this point, and which also shews the relative proportion of suicides to the entire number of persons at different periods of life.

	Age.	Years.	Suicides.	Population.
From	10 to 15	. .	12 . .	50,000
	16 to 20	. .	38 . .	71,000
	21 to 25	. .	63 . .	73,000
	26 to 30	. .	67 . .	70,000
	31 to 40	. .	107 . .	117,000
	41 to 50	. .	115 . .	91,000
	51 to 60	. .	85 . .	74,000
	61 to 70	. .	41 . .	51,000
	71 to 80	. .	14 . .	20,000
	81 to 90	. .	2 . .	4,000

What a theme for reflection does this table present to the physician, and to the moralist; and not less to the political philosopher. How small is the number of those advanced in years, and labouring under the infirmities of decrepitude, or the pains and trials of protracted disease, who dare to snap the thread of life asunder; while in the ardent and impetuous season of youth, when health and bodily vigour most abound, and the capacities of enjoyment are most ample, the passions, those vultures of the mind, too often lead on the unhappy victims to self-destruction.

It is in manhood, however, from the age of 40 years to 50, that the suicidal mania attains its maximum of frequency. The animal energies are, it is true, still in full force, and the mental powers have, or, at least ought to have, reached the maturity of their powers; but it is to be remembered that perhaps at this period of life, more than at any other,

intention, he will do well to give a condensed and abridged digest of not only M. Bouillaud's, but of the other recent French pathologists' researches.

the mind is exposed to the disturbing influence of disappointed ambition, of domestic anxiety and distress, and of other causes of chagrin and disquietude; and that it no longer possesses that elasticity or resiliency of spirit, by which it relieved itself from vexing care in more youthful years.

The middle-aged man feels, when calamities overtake him, that he is less able, than he was wont to be, to struggle against them; and the mortification at the change of his circumstances, coupled with the slender hope of regaining his former position, is too apt to prey upon his mind, until he is driven on to commit suicide.

In a statistical note on England, published in a recent number of the *Bibliothèque de Geneve*, we observe it stated, that, in "that classic land of suicide," the crime has of late years very sensibly diminished. According to the bills of mortality in London, it appears that during the years 1834 and 1835, there were only 83 deaths from suicide, or not more than one in every 519 deaths; whereas in Paris the proportion is at present nearly that of one in every 100 deaths.—*Gazette des Hôpitaux*.

The number of cases of suicide reported in the French Medical Journals is very great. Scarcely a number of the Archives, or of the *Annales d'Hygiène*, is free from some melancholy details of murder or self-destruction. We have selected a few examples to illustrate the preceding remarks.

In the Archives Generales for May last, there is the account of a boy, 12 years old, who was found hanging in his bed-room. He had fastened his handkerchief to a nail in the wall, and having then passed the loop round his neck, he had swung himself off from a chair. When found, he was quite dead, although his feet rested on the floor. This boy was noted for "l'intelligence et la gentillesse dans ses jeux avec ses camarades." The only cause, which could be assigned for the dreadful act, appeared to be, that on the preceding day having accidentally broken his father's watch, he was shut up

in his room, and nothing allowed him but dry bread, as a punishment for his carelessness.

Another case of suicide committed by a boy, eleven years of age, is narrated in the same Journal. It appears that he had left his father, by whom he had been reprov'd, in the fields, went home, put off his ordinary clothes, dressed himself in his holiday's suit, and then hung himself from the cross-beam of the bed. He had written on the wall with a piece of charcoal the following words:—"O sadiéue de Francois Benjamin Richard, qui s'est pendre atacher au Rido de sa mere."

It appears that a few months previously the uncle of this boy had hung himself. At his feet was found a bottle of holy water (eau benite, lustrale), and on the wall opposite to him he had marked three figures of the crucifix. The boy, following his example, had gone into his father's cellar, and had taken out a bottle of blessed water: it was found on the table of the bedroom.

These two cases occurred in Paris; the following one happened at Meaux. A youth, 13 years of age, only son of parents in easy circumstances, had been reprimanded and struck by his father for some offence. Next day he told his companions his intention to drown himself. "J'ai été frappé par mon pere, il ne recommencera plus; je vais me jeter à l'eau." They laughed at this language; but unhappily the threat was not an idle one; for the boy that very afternoon did drown himself.

We are next told of two girls, the one eleven, and the other thirteen years old, who made attempts at suicide. The former had been threatened by her father with his displeasure, if she did not finish some task by a certain time. Afraid of not pleasing him, she became sad and unhappy, "et dès ce moment elle ne pensa plus qu'à mourir." She left her father's house, early one morning, and directed her steps towards the Quai St. Bernard, and there threw herself into the Seine. Fortunately the water was not deep, and some labourers having observed her, hurried to the

spot and draw her out. In the other case too, it seems that the girl had had a quarrel with her mother. She also was saved, by some workmen having seen her throw herself into the river.

These are melancholy examples of the crime of suicide in early life. The following case presents a striking contrast, in respect of the age of the victim.

A man, 86 years old, who was in perfect possession of his reason, had made several attempts to put an end to his life, because he thought that men, however healthy and free from infirmities, ought not to exceed four-score years of age!! His companions had often tried to laugh him out of this strange notion; but in spite of all their reasonings with him, he at length effected his purpose by blowing his brains out.

The prevalence of suicide at the present time in France, and particularly in Paris, is truly frightful. The "jeunes gens," of that dissipated capital have, of late years, exhibited quite a suicidal phrenzy. Scarcely a day passes, but some fresh victim or victims of self-destruction are exposed at the Morgue; and every work, which has of recent years been published on the state of the French nation, teems with examples. The unsettled state of public affairs, the sad want of sound religious principles, and the wide diffusion of a most licentious and profligate literature, are no doubt the chief causes of this deplorable vice. It is not want, nor bodily suffering, nor mental distress, which has driven most of these unhappy wretches to launch themselves into eternity,

"Unhoused, unappointed, unanealed,
With all their imperfections on their head;"

but in too many cases only a most daring defiance of the *vulgar* terrors of religion, or perhaps a most blinded ignorance, or unhappy disbelief of these very terrors.

In Mrs. Trollope's work on Paris and the Parisians, we read an account of two youths who went to one of the most fashionable restaurants, and ordered a most sumptuous dinner. After

enjoying themselves with every delicacy, they summoned the maitre-d'hôtel, and very coolly informed him that they had no money to give him; that for some weeks past they had been very badly off; and that, as they had made up their minds to commit suicide, they were resolved to have at least one capital dinner before leaving the world.

The restaurateur, not being satisfied with this story, was inclined at first to commit them into the hands of the police; but considering afterwards, we suppose, that this detention would not indemnify him for his loss, he allowed them to go. Next day these two youths were found dead in bed together!

ON GASTRO-MALACIA, OR GELATINIFORM SOFTENING OF THE MUCOUS COAT OF THE STOMACH AND INTESTINES.

This pathological condition of the mucous membrane of the stomach and upper portion of the small intestines is, although not peculiar to early life, much more frequent in infants and young children, than in more advanced years. It seems to be, in many cases, not the mere result of preceding inflammatory action; but rather a disease "*sui generis*;" and to be most strictly and truly of idiopathic origin. The period of dentition, and more especially during the act of weaning, is that, when the morbid process of intestinal ramollissement is most apt to occur. It is certainly less common afterwards; and the disposition to it seems to be greatly less after the second year, than it is before.

Of 50 cases seen by Romberg, 6 only occurred later than the close of the second year.

As to the inducing cause of this disease, we are by no means provided with any very conclusive information. Romberg is inclined to ascribe it to some disturbance in the mutual relation of the salivary and of the gastric secretions, upon the cessation of the act of suckling; and he suggests therefore that,

for some time after weaning, a child should always be fed from a glass, from which it sucks, and never with a spoon (!)

Other physicians have attributed this softening of the ventricular mucous coat, to the secretion of an acrid irritating gastric juice. But the occasional circumstance of portions of the mucous coat of the small intestines being similarly affected, at the same time as that of the stomach itself, is rather opposed to this interpretation.

Dr. Cammerer, of Stuttgart, in 1828, published an excellent work on this subject, wherein he suggested that the ramollissement of the mucous membrane might probably be owing to an interruption, or to some other disturbance, of the nervous influence of the par vagum, and sympathetic nerves on the intestines. In corroboration of this doctrine, he adduced the results of several experiments which he had performed on rabbits and some other animals; in which he had divided these nerves in the neck, and found that a genuine ramollissement of the mucous coat of the stomach and bowels had taken place.

His doctrine is, that these nerves are, in the first instance, sub-acutely inflamed; and that this inflammation induces a degree of paralysis of their energies; in consequence of which the still secreted gastric juice acts upon the coats of the enfeebled stomach, as it is well known to do after death in animals killed during the act of digestion. It must be confessed, that this hypothesis of Dr. Cammerer is purely conjectural. Neither he, nor any other pathologist, has been able to discover any distinct traces of inflammation of the nervi vagi, or of any other nerves; and therefore we cannot, says Dr. Droste, quite agree with the propriety of his therapeutic injunction—"that the great object of the physician is to subdue the inflammation of the nerves, and thus prevent the paralysis." The local bleedings, and the inunction of mercurial ointment may, so far from being of use, very probably increase the tendency to weakness, and softening of

the predisposed tissues, if no inflammation exists.

The remedial means, however, which Dr. Cammerer has so strongly recommended to fulfil the other indication—to prevent the paralysis—meet with the warm approbation of our author. The remedy is the muriate of iron.* We shall adduce one case in which it appeared to exert most beneficial effects.

An infant, nine months old, became restless, feverish, and sleepless. The appetite ceased, and the stomach was irritable and sick, although the child seldom vomited. There was much thirst, occasional twitches of the facial muscles, cramps in the limbs; and the expression of the features indicated great internal uneasiness. No very appreciable cause could be assigned for this illness.

Repeated doses of calomel, sometimes alone, and sometimes combined with the flowers of zinc, were exhibited. The unfavourable state of things continued for several days; but then happily abated; and the child began to recover his appetite and liveliness. It was found, however, that almost invariably after taking any food, the child became restless, uneasy, began to cry, as if suffering from inward pain, and soon rejected by vomiting the contents of the stomach.

The author, Dr. Droste, now determined to administer the chalybeate salt, as he imagined that the train of symptoms depended upon an incipient softening of the mucous coat of the stomach. The formula, which he prescribed, was the following: *R. Tinct. ferri Muriat. ℥j. Extract. Cort Chinæ ℥j. Aquæ flor. Aurant. zij. Syrupi Aurant. zi. Misce.* A tea-spoonful of this mixture was given very frequently.

* Some of the German writers praise highly the sulphate of copper in the same sort of cases. We suppose that it is administered as an astringent and tonic, for the purpose of counteracting the morbid laxity of the mucous membrane.

All the unpleasant symptoms speedily abated, and the infant was soon restored to perfect health.

[The English reader will very properly question the accuracy of the diagnosis in this case. For our parts, we should have regarded it as one of simple weakness, or atony of the stomach, induced by a preceding feverish attack. The Germans, however, delight to apply all the subtleties of book-learning to the explanation of the most ordinary occurrences.]

That numerous cases of obstinate and fatal diarrhœa, in infants more especially, are dependent upon a ramollissement of the mucus intestinal coat, is a very generally received opinion among the German, and also many of the French pathologists. We find the following two cases, set down as examples of acute gastro-malacia, in a late number of Hufeland's Journal. They are reported by Dr. Durr, one of the chief physicians in Wurtemberg.

A child, nine months old, which had been reared without the breast, had for several weeks past been loosing flesh, in consequence of a general feverishness, troublesome cough, diarrhœa, thirst, and loss of appetite. The alvine evacuations were green and offensive. To these symptoms succeeded vomiting, pallor, and great anxiety of the countenance, heat and restlessness of the head, slight convulsions of the limbs, and spasmodic stiffness of the back.

Leeches, oily emulsions, purified argilla—[is this the Armenian bole of our pharmacy?—*Rev.*] the aqua oxy-muriatica, &c. were used, but with no benefit. The infant died in the course of a few days.

On dissection, the right side of the heart was found to be pale, and of a very soft consistence; the stomach was collapsed; its coats were pale, and of a marbled appearance; the left side of it was converted into a gelatinous pulp, and at one spot there was a perforation, as large as a hazel-nut.

A young infant, which had been reared with spoon-food, was distressed with purging of a green offensive water, with feverishness, loss of sleep, thirst, &c. An emulsion, containing half a

drachm of the Argilla Depurata in an ounce and half of emulsion was ordered. The symptoms were mitigated in consequence; but after the lapse of a week or so, they returned with increased severity, and were accompanied with aphthæ in the mouth and fauces. The same mixture, with the addition of one grain of extract of cicuta, was prescribed, and again succeeded.

These relapses of diarrhœa occurred repeatedly during the following two months: but ultimately the child recovered perfectly.—*Journal der Pratischen Heilkunde.*

We confess ourselves somewhat unable to form any just appreciation of the disease, which the German Journalists mention so often, by the name of Gastro-Malacia. Their descriptions are so very defective and confused, that all attempts to present a rational analysis of their writings are, to us at least nearly impracticable. We shall, however, take this opportunity of briefly illustrating some of the most interesting particulars, regarding the softening of the intestinal mucous membrane.

Softening of the mucous membrane of the stomach and bowels may occur either from the operation of disease during life, or from the direct action of the gastric juice, immediately after the death of the animal.

In the healthy state, the mucous membrane of the alimentary canal is found to vary much in thickness and in consistence, at different parts of its extent. It is thickest and firmest in the duodenum and at the pylorus; and thinnest in the colon and at the fundus of the stomach. It becomes less and less thick and firm in the rectum, jejunum, and ileum. Where it is thickest it may be torn from the submucous cellular tissue in shreds of from a quarter to half an inch in length; whereas in the colon and fundus of the stomach, it can be detached only in very small pieces. When the body is much emaciated, the mucous membrane of the whole extent of the bowels becomes so thin, that it breaks, whenever we attempt to separate it.

Softening of the mucous membrane from inflammation may occur at any

portion of the intestinal canal. Dr. Carswell is of opinion, that this morbid change is most frequently observed at the termination of the ileum, and in different parts of the colon. But it may occur at any part; and in some rare cases, the whole extent of the tube, from the cardiac orifice of the stomach to the extremity of the rectum, may be affected with it.

There are various degrees of this morbid process. In the first degree, the mucous membrane is found to break or tear across, whenever we attempt to raise it with the fingers or the forceps; in the second degree, the softening is so much greater that, by merely scraping it lightly with the edge of the scalpel, it is converted into a soft, opaque, creamy-looking pulp; and in the third extreme degree, it is so loose and soft, that a stream of water is sufficient to detach it from its subjacent connexion. In this last stage, portions of the mucous membrane are found, on dissection, partially or entirely destroyed, and in the submucous cellular tissue is laid bare in irregular or round patches of different sizes.

Softening of the intestinal mucous membrane is accompanied with various degrees of redness. The membrane is sometimes quite pale; at other times the redness may be confined to the softened parts, while the rest of the membrane is pale, or vice versa.

The redness may vary from a slight rose-red to a purple or dark brown hue. The pale inflammatory softening, of a grey, yellowish or milky aspect, is very common in phthisical subjects, in tubercular disease of the mesenteric glands, and indeed in all diseases attended with extreme emaciation.

Some authors have alleged that the inflammatory softening may affect all the tunics of the stomach and intestines, and may give rise to perforation of the tube, at any part. Dr. Carswell disbelieves this statement. His words are: "softening of all the coats of the stomach or intestines, carried to the extent of perforation of these organs, does not arise in inflammation. It depends on the chemical action of the gastric juice."

There is one form of softening of the

intestinal mucous membrane, which from the alleged peculiarity of the symptoms attending it, and from the extreme rapidity of its progress, had attracted much notice from the continental pathologists. Cruveilhier has described it under the title of "*maladie gastro-intestinale des enfans, avec desorganisation gelatiniforme.*"

This is no doubt the disease to which Dr. Droste in the preceding article gives the name of *gastro-malacia*, or *die gallertartige magenerweichung im kindlichen alter*.

According to Cruveilhier, the symptoms of this very violent and fatal disease are excessive thirst, urgent vomiting, and purging of very fetid, green stools. The child becomes exhausted, and cold on the surface; the pulse is slow and irregular; the infant is constantly restless and crying; drowsiness and oppression come on; and in from 24 to 48 hours a fatal collapse succeeds.

This affection has been not unfrequently mistaken for a violent cerebral attack, in consequence of the somnolence and screaming, the irregularity of the pulse, &c. &c. being common to both. But in the peculiar disease, now under consideration, the drowsiness is not deep or oppressive; the child is awakened by the slightest touch; the sensibility of the skin, moreover, is morbidly acute; and there is not the same tendency to delirium and cerebral confusion.

On dissection, the mucous membrane of the stomach, and generally of some part of the large and small intestines, is found reduced to a state of gelatiniform pulp, without perhaps any traces of inflammatory action.

M. Guersent also, one of the most experienced practitioners in children's diseases, has given a description of the gelatinous softening, as observed by him in the *hôpital des Enfants*. This peculiar combination of vomiting and purging, he remarks, is most common between the third and fourth month, and the completion of teething. It usually commences with a diarrhoea of green evacuations; and, when this has lasted for some time, vomiting succeeds. The system is feverish: the infant rest-

less and constantly moaning; and the prostration of strength extreme. It is seldom that we observe regular convulsions supervene; but there is usually a tendency to twitching of individual muscles, as of those of the face, neck, or extremities. The child generally remains quite conscious to the last—thus affording a very marked distinction from cerebral diseases, with which this affection has been frequently confounded. The duration of this affection, at least in its acute form, may vary from one to three or four days. Sometimes however it is of a more chronic character; there are frequent renewals and temporary cessation of the symptoms; the child's strength is gradually undermined; and at length it sinks, in perhaps a month or even a longer period, after the commencement of the mischief.

When the body is examined, the stomach and intestines are usually found pale, and almost transparent; as if they had been macerating, for a length of time, in water. Occasionally patches of inflammatory redness are discovered; but these are rare. It is however particularly to be observed that M. Guersant has met with a multitude of cases, where all the symptoms above enumerated were present, but in which he could detect no appearance of softening of the mucous membrane in any part of the gut.

The treatment, recommended by him and by Cruveilhier, consists in the use of demulcent drinks, emollient enemata, narcotic cataplasms and fomentations. Leeches and indeed all depletory means are positively injurious. Minute doses of opium are perhaps the most powerful and useful medicines. In chronic cases we may employ alteratives, astrin-gents and tonics; but, in the acute form of the disease, there is no time to be lost, and we must have recourse at once to anodynes. It is not possible to lay down any general rules respecting the diet and management of the infant. In some cases it may be necessary to wean it immediately; at all events, it is always proper to give other food during the severity of the attack. Perhaps thin arrow-root, to which a

small portion of brandy has been added, is the best. Whatever may be the real existing cause of this very fatal disease, we cannot attribute it to mere inflammatory action—at least antiphlogistic remedies are certainly the worst that can be used. The softening of the mucous membrane appears rather to be truly idiopathic.

The form of softening of the intestinal mucous membrane, now described, is not peculiar to infants. It is occasionally observed in youths and adults; but in the former more frequently than in the latter. We have seen it in several cases in young females, who had been ailing for some time previously under some obscure abdominal or thoracic affection, and had become much reduced and emaciated. An indiscretion in diet, or exposure to cold, or even a sudden mental emotion, has brought on an alarming degree of diarrhœa, and the patient has sunk in 16 or 24 hours. On dissection, some part of the intestinal canal has been found softened and perhaps so much disorganised, as even to permit the finger to perforate its walls without much difficulty. We believe that nothing can be done to save such cases. At least opium and other narcotics are the only remedies, which hold out any prospect of benefit.

As for the recommendation of the preparations of iron or of copper in the gelatiniform softening of the stomach by Dr. Droste and other German writers, we hold the practice very cheap. It is founded on far too a chemical or mechanical an idea, to promise any good in controlling a vital action. Iron and copper may harden a piece of leather; but we much doubt whether they can restore a softened stomach to its healthy firmness.

We shall now discuss very briefly that other form of softening of the stomach and intestines, which is caused by the direct chemical action of the gastric juice, immediately after the death of the animal. This very singular phenomenon was unknown to pathologists, before the publication of John Hunter's celebrated paper, "On the Digestion of the Stomach after death," in the Philosophical Transactions. His experi-

ments and observations were repeated and confirmed by Spallanzani, Dr. Adams, and Mr. Allan Burns of Glasgow. It was the latter gentleman who, we believe, discovered this solution of some portion of the stomach in persons emaciated from chronic disease, as well as in those who had died suddenly, or in animals killed during a state of perfect health.

The opinions of Hunter were at first received in France with great reluctance; and numerous conjectures were brought forward to account for the solution of the coats of the stomach. It was generally regarded not as the effect of the gastric juice; but as a serous lesion caused either by long-continued disease, or by a rapidly-excited high degree of local irritation, induced somehow or other, and ending in the destruction and disorganization of the part. Even some of the leading pathologists in the present day, such as Cruveilhier and Louis, consider the appearances, attributed by Hunter to the solvent power of the gastric juice, as a peculiar diseased alteration of the affected tissue, hitherto overlooked by anatomists.

M. Louis, in his *Recherches Anatom. Pathol.* 1826, has described minutely the *symptoms*, and morbid appearances, that he observed in a multitude of cases in which the mucous membrane of the stomach was found to be more or less softened. He regards this disease as depending upon a peculiar irritation of the mucous membrane, the symptoms of which are often very obscure and uncertain.

Cruveilhier also has come to the same conclusion respecting this disease, more especially as it is found in infants and young children. Dr. J. Gairdner, in a very able paper published in one of the early volumes of the *Edin. Medico-Chir. Transactions*, expressed his sentiments on this subject to the following effect:—that the softening and perforation of the alimentary canal, frequently observed in the bodies of infants, are produced after death by the action of the fluids contained in the stomach and intestines; that these lesions probably occur in some cases without any previous disease of the parts; but that they

also take place in consequence of a peculiar disease of the canal, whereby portions of it are rendered more easily soluble by the action of its contents.

Dr. Carswell also, certainly one of the highest authorities on every thing connected with pathological anatomy, has come to the conclusion that softening, erosion, and perforation of the stomach, intestines, œsophagus, diaphragm, &c. have been met with, of every possible degree, extent and form, whatever may have been the nature of the disease by which they had been preceded; and that these lesions have been produced by the solvent action of the gastric juice and intestinal fluids. "It is an interesting fact," he observes, "that in almost all the cases of softening (gelatiniform softening) with perforation, which have been published, the large intestines, situated in the epigastric or left hypochondriac region, were exclusively the seat of one or both of these lesions. Such also has been the result of our own observations in all the cases of softening of the intestines, which we have examined in the dead body. The locality of this lesion and its physical characters being precisely the same in man, as those observed in animals (killed soon after food has been taken), and having traced it in both to the mediate or immediate influence of the gastric acid, we must necessarily regard it in the former, as it has been shewn to be in the latter, case, a *post-mortem* alteration." In a subsequent part of his memoir, he remarks "that inflammation produces quite a different kind of softening of the mucous membrane, from that which we have described. The mucous membrane softened by inflammation, instead of being transparent, is more or less opaque, and, even when it is completely disorganised, it resembles a mixture of flour and water, or of milk, rather than an albuminous, or a gelatinous fluid. Such is, in fact, the principal character of inflammatory softening of mucous membrane, in whatever organ it occurs; whereas the *transparent gelatiniform softening* is never observed, except where the chemical agent is formed by which it is produced—viz. in the alimentary canal,

and in some of the neighbouring organs." Dr. C. alludes also to the frequently total absence of all traces of inflammation in the abdominal viscera, such as redness, effusion, lymph, &c. when not only the stomach and intestines, but even the diaphragm, spleen, and liver, have been found affected with this process of disorganizing softening.

We have not space to allude to those experiments on the lower animals, where they have killed soon after taking food; and to those observations on the human subject, where death has occurred suddenly after a meal, and which place beyond all doubt the perfect accuracy of the original propositions laid down in Hunter's paper in the Philosophical Transactions. Suffice it to say that our readers will do well to consult the admirable writings of Dr. Carswell.

Whether this able pathologist is correct, in considering all cases of gelatiniform softening of the stomach and intestines as depending upon the action of the gastric juice, appears to us more than doubtful.

That this morbid process takes place without preceding inflammation is admitted by all the best writers; but whether it is always the effect of the solvent power of the intestinal juices, or occasionally the result of an idiopathic and vital process, is not definitely settled. Andral leans to the latter opinion; and thus confirms the views of Cruveilhier and Guersent, and of the German anatomists. All these authors agree in describing the symptoms of this affection as of a choleric form character—diarrhœa, vomiting, general anxiety and restlessness, coldness of the extremities, and lastly convulsions and death. The attacks are most frequent during dentition, and more especially at the period of weaning.

The morbid changes, found on dissection, vary in degree from a mere diminution in the consistency and cohesion of the affected membrane to a state of complete and almost putrid gelatinous softening, accompanied with patches here and there of extravasated blood.

Whether this morbid softening may so affect all the coats of the stomach

or bowels as to cause perforation, and thus give occasion to the escape of their contents into the cavity of the abdomen, without the simultaneous solvent action of the gastric juice, may be fairly questioned. Dr. Carswell, as already stated is opposed to this view; and perhaps quite correctly.

The propriety of arresting severe attacks of diarrhœa, in teething children is a question of too great extent to be discussed here. For one case, which will be benefited by muriate of iron, sulphate of copper, and such like remedies, ninety-nine require the use of mercurial alteratives, antacids and mild purgatives. By far the best plan of treatment, as a general rule, will be found to administer from three to five grains of the hydrargyrum cum cretâ alone or in combination with the compound chalk powder, and to follow this up with repeated doses of such a mixture as the following:—

R. Magnes. calcinatæ, ʒj.
Carbon. calcis preparat. gr. xv.
Syrupi Rhei, ʒss.
Aquæ anethi, ʒiss.
Spir. ammoniæ fœtid. ʒj. xij.
Vini ipecac. ʒj. xx.
Tinct. hyosciami, ʒj. xij. Misce.

A dessert-spoonful for a dose every hour or two. When the diarrhœa has ceased for some time, it will usually be advantageous to exhibit a small dose of castor oil, for the purpose of carrying off any offensive matter lodged in the bowels.

We must always be very cautious of suddenly and completely checking diarrhœa in infants with opiates. Many a case of confirmed hydrocephalus has followed such practice.

CURSORY REMARKS ON HYDROCEPHALUS ACUTUS, WITH CASES.

The number of cerebral diseases to which infants and young children are subject, is by no means large. Genuine apoplexy is rarely or never met with in them; epilepsy is of very uncommon occurrence; and so is chorea

and tetanus; by far the most frequent head-affections are hydrocephalus (or as it ought rather to be called 'meningitis,' or 'meningo-cephalitis') and convulsions. None of the descriptions, which authors have given of the former of these diseases, will be found faithfully to represent and portray the actual phenomena, as seen at the bedside of the patient; and we do not yet possess a work which we can confidently recommend to the young practitioner, to guide him in the diagnosis and treatment of hydrocephalus. Dr. Whytt attempted to arrange the symptoms of the disease under a threefold division: he has insisted particularly on the different characters of the pulse, as indicative of the three stages. Experience however does not confirm, on all occasions, the accuracy of his description.

Dr. Coindet thought that the moaning cry of the little patient, in genuine hydrocephalus, is quite characteristic of this affection. This is a fanciful idea,—and not warranted by practice; for most certainly the "cris hydrocephaliques," described so minutely by this author, are heard as often in other diseases. The statement which M. Serres has made "that the central parts of the brain, viz.—the corpus callosum, septum lucidum and fornix, are invariably found on dissection to be unaffected in those cases of hydrocephalus, in which the sensibility of the patients has been preternaturally exalted, and has not been impaired in the last stage," may perhaps be true in a multitude of instances; but assuredly it is not in all.

Every practical physician is well aware, that this most formidable disease, at least its first stage, is often simulated by certain abdominal affections, and that hitherto no decisively diagnostic symptoms have been pointed out, by any of the numerous authors, who have written its history. In this state of uncertainty, it will be prudent therefore to have our attention directed in all suspicious cases, to the state of the head; for it is better to treat many abdominal affections, as if they were of cerebral origin, than to commit the

contrary error. Many cases of typhus very closely resemble the course of genuine hydrocephalus; and indeed it is not a very unfrequent occurrence that encephalic effusion supervenes to a protracted typhoid or nervous fever, in certain delicate constitutions. It is however worthy of notice that genuine typhus seldom attacks children at that period of life, when they are most subject to the attacks of hydrocephalus, viz—from two to six years of age. The following series of cases cannot fail to be valuable, as teaching by examples some of the most prominent features of this very formidable disease.

CASE 1.—Vomiting at the commencement—pulse becoming quicker and quicker—disturbance of the motility—death on the 10th day.

S. M., two years old, had been ailing, for three weeks, from cough and diarrhœa. When she was brought into the hospital, on the 23rd of May, the existing symptoms were fretfulness, crying whenever she was touched or moved; cough, but no pectoral stethoscopic irregularity; pulse 108. On the evening of the 26th, she vomited; the face was observed to have frequent alterations of redness and paleness—pulse 96: some leeches were applied behind the ear. Next day there was strabismus and confusion, so that she did not know her mother; a stiffness in both arms; bowels not purged for two or three days; pulse 104 and irregular. The stiffness of the arms increased and extended to the muscles of the neck and of the trunk; pulse (on the 30th) more rapid, having risen up to 120. On the 1st of June there seemed to be amaurosis with the strabismus, and also twitchings of the muscles of the jaw and cheeks came on;—pulse 132. 3rd—extreme pallor of the skin; quite insensible; pupils dilated; extremities cold; pulse very frequent. On the 6th she died, without having suffered any convulsions.

Dissection.—Four ounces of serum flowed out on lifting off the calvarium. The arachnoid coat was pale on the upper surface of the brain; and at the base, especially about the fossa silvii,

there was a subarachnoid whitish sero-purulent effusion, and also an appearance of pale-coloured granulations of the size of millet seeds. The medullary substance of the brain was generally softened; the fornix and corpus callosum in particular were very easily lacerable.

Reflections.—So suspicious a symptom is vomiting in infants, when it occurs without any appreciable cause, that we should immediately, under such circumstances, direct our attention to the head. In the above case, the alternations of flushing and pallidity of the face at the commencement, and subsequently the fixed pallor of the features, were very conspicuous symptoms. The pulse became more and more frequent, from the commencement to the fatal issue of the case.

CASE 2. No vomiting at the commencement—Stupor interrupted by two days of agitation—Death on the 13th day—Subarachnoid effusion. A girl, aged 2½, had been ailing for five days before she was brought to the hospital. The symptoms on the 23d of June were redness of the face; the eyes were kept closed; the child was fretful and sleepy; the breathing was sighing; there was much thirst but no vomiting or purging; pulse 80.

On the next day the pupils were observed considerably dilated; the other symptoms as before: pulse 92.

25th. Stupor; alternate flushings and pallor of the face; pulse 96; pupils contracted; leeches and calomel.

26th. Pupils dilated; conjunctivæ red; pulse 128.

27th. Great restlessness; pulse 126.

28th. Stupor, interrupted with occasional moaning; deglutition difficult; pulse 104.

29th Stupor; dilated pupils; amaurosis and strabismus; pulse very frequent. Death in the evening.

Dissection. Five or six ounces of serum flowed from the brain. The arachnoid was pale on the upper surface; and there was a serous subarachnoid effusion at the base of the brain, chiefly around the two fossæ silvii—no trace of pus anywhere—substance of the

brain firm and not more vascular than usual—ventricles dilated—corpus callosum and fornix easily lacerable.

CASE 3. Stupor continuing during the greater part of the disease—Death on 8th day—Serous effusion.—A girl, aged 3, having been indisposed for four days, became unusually heavy and drowsy; she uttered shrill cries; and vomited occasionally; there was slight cough; and the pulse was 104. She continued in this state for three days; the somnolence was then more and more complete; and she could be roused only with difficulty;—pulse 120. In two days more she died without having experienced any convulsions.

Dissection. A slight purulent serosity was found between the junction of the optic nerves, and the crura cerebri. The arachnoid coat was pale on the upper surface of the brain. The cerebral substance was rather soft, and but little injected with blood: the corpus callosum and fornix were easily lacerable.

CASE 4. Hooping-cough—Stupor—Strabismus—Contractions of the limbs—Death on 10th day. Subarachnoid effusion, with granulations. A girl, aged 3½, who was labouring under hooping-cough, was suddenly seized with drowsiness, strabismus, and other symptoms of cerebral disturbance; pulse 112.—There were frequent changes of the colour of the face, it being at one time pale, and at another time much flushed. For four days, the child continued in this state of oppression, not recognising any one, but lying nearly insensible; the pupils had become dilated; the pulse was still very frequent. On the 5th day the countenance was haggard, the eyes were open, amaurotic, dilated, and squinting; the child lay insensible; the muscles of the neck were so stiff and permanently extended, that the body might be raised, by lifting only the head from the pillow;—pulse 132. She occasionally coughed, but never with any hooping noise.

No change took place in her condition for other two days, she being all the time comatose. She died on the

evening of the 7th day from the commencement, without having suffered any convulsions.

Dissection. The arachnoid membrane, on the upper surface of the brain, was highly injected; towards the base of the brain, it was infiltrated with a limpid serum, and studded with numerous whitish, semi-transparent, hard granulations, of the size of a pin's head. These were most numerous about the fossæ Silvii, and between the adjoining convolutions. The cerebral substance was softened throughout, and the cortical was so soft that at some parts it readily separated along with the arachnoid, when this was pulled off. About four ounces of serum were found in the ventricles. The substance of the cerebellum was very pale.

CASE 5. Death 10th day.—Effusion. A girl, aged 3, after a few days' indisposition, was reported to be drowsy, to vomit and cough occasionally; the skin was hot, and the pulse 96. Two days subsequently she had a convulsion; the eyes squinted, the pupils were dilated, the face was flushed, pulse 124. Though heavy and dull, she was sufficiently sensible to answer, when spoken to. On the 6th day, there were occasional convulsive twitches of the muscles of the face and of the limbs; the child moaned constantly; the pupils were still dilated. On the 8th she died.

Dissection. The arachnoid, on the upper surface of the brain, was very dry, and highly injected. There was partial serous infiltration at the base, especially round the larger arterial and venous trunks. The cortical substance came away along with the arachnoid; the medullary substance was firm and not injected. About 6 ounces of serum were found in the ventricles.

CASE 6.—A girl, aged seven, had been ill for a fortnight, when she was brought for advice. She then complained of headach, pain at the epigastrium, but there was no vomiting, nor diarrhœa. She was feverish, and had a troublesome cough. In spite of the remedies employed, the headache continued, and was attended with considerable drow-

siness; the patient was unwilling to answer questions, or to be in any way disturbed; the face was flushed, the eyes kept closed; tongue white—pulse variable, being 116 on one day; and only 96 the next day. Repeated leechings, and doses of calomel were employed. She became insensible; the pupils were dilated; she was occasionally convulsed; and died eight days after she was taken for advice.

Dissection. The arachnoid on the summit of brain was dry; at the base, and upon the cerebellum there was subarachnoid seropurulent effusion; the cortical substance came away adhering to the arachnoid, when this was pulled off. The medullary substance of the brain generally was very soft; and the lateral ventricles were much dilated.

CASE 7.—A girl, aged 8, was suddenly seized with vomiting, and intense headache; the face was distorted by the pain; the eyebrows contracted, the eyes bleared, the conjunctivæ injected. For several days this severe cephalalgia continued; the tongue was white and feverish; there was considerable nausea; the bowels were constipated; the pulse 96. Leeches, derivatives and purgatives were employed; but the suffering in the head did not abate; the child lay moaning constantly, and screamed, whenever the head was moved, or even the hair was touched. A short attack of convulsions supervened; the muscles of the neck became stiff, and the head was drawn back forcibly. The little patient was perfectly sensible, and answered all questions; but shewed great uneasiness, when she was in any way moved, or disturbed. The pulse was variable, from 95 to 98; then it rose to 116, and fell afterwards to 104. The headache had now lasted for nine days without intermission, or abatement: the pain must have been very severe, as the features were almost always grimaced. The abdomen became exceedingly tender, and the pulse rose to 128; she was restless and agitated, but never oppressed, nor insensible; and she continued to answer questions till within a few hours of her death, which took place on the 16th

day from the commencement of her illness. There had not been either delirium, convulsions, or coma at any period. The death took place, sooner than was expected by the medical attendant.

Dissection. On the upper surface of the brain, the arachnoid was healthy; the pia matter was highly injected. At the base, especially between the optic nerves and the crura cerebri, in the fissures of Silvius, and around the basilar and communicating arteries, the arachnoid membrane was opaque and opaline, and lined on its inner face with a greenish-yellow puriform coating. The substance of the brain was healthy and firm. The lateral ventricles were considerably dilated, but they did not contain much serum.

CASE 8.—Remarkable Stupor, during the whole course of the Attack. A girl, aged 6, had laboured under infantile remittent fever for about a week. She was then seized with vomiting, and became flushed in the face, and very drowsy. She put her hand frequently to her head, and seemed to suffer much pain there—pulse 76. There was little change in the symptoms, till the day of her death, which took place on the 10th day, after the attack; she lay motionless and oppressed all the time; but could answer questions, when urged upon her; the eyes were kept closed; strabismus occurred the day before her death; and strong convulsions also preceded it. For the four previous days, she was insensible; and the pulse had risen to 120, and even higher sometimes. The alternate flushing and pallor of the countenance were observable during the early part of the disease.

Dissection. Serous subarachnoid effusion was found at the base of the brain. The arachnoid membrane was healthy at the upper surface. The cerebral substance was generally soft; and the "parties centrales" were pulpy. The ventricles were dilated, and contained about 2 oz. of serum. Two hard yellow tubercles were found in the left anterior and in the right posterior lobes. Several tubercles also were discovered in the substance of the cerebellum.

CASE 9.—Death 39th day. A boy aged 4, of a scrofulous habit, suddenly became fretful, dull, and unwilling to leave his bed. He did not however complain of pain anywhere; and his pulse was quite natural. The stomach became irritable a few days after; and he vomited his food occasionally. The face was every now and then very pale; he frequently moaned, and became unusually drowsy. The pulse was 100. There was little change in the symptoms for about a week. He was still sleepy, irritable when moved or disturbed, and moaning at other times. Now and then he vomited; and the pulse varied from 100 to 120. The drowsiness suddenly increased to a state of complete stupor; the face was alternately flushed and pallid; the eyes were kept obstinately closed; the pupils however were neither dilated nor contracted, and were quite moveable—strabismus and rolling of the eye came on; and two days afterwards, some contraction of the left arm was observed; the fingers were kept firmly clenched; the breath became fetid, the pulse rose to 130; and after a few convulsions he died, at the end of the fifth week.

Dissection. A patch, an inch square, of blood was found between the bone and the dura matter, over the left middle meningeal artery. The arachnoid was healthy on upper surface of brain; and there was no infiltration, but at the base, especially between the optic nerves and the crura cerebri; and at the fossæ Silvii, this membrane was opaline, and presented several yellowish grey tuberculous particles. The adjacent cortical substance was very soft, and the medullary substance was redder than natural. The ventricles were dilated, and contained about 6 oz. of serum in their cavities.

CASE 10.—Cured. A girl aged 5½, after several days anomalous indisposition, began to complain of her head; she vomited occasionally; was feverish moaned much, was very drowsy; the bowels were confined;—she had voided a lumbricus. She was affected in this manner for six or eight days; and the report states, that then the face was pale, that she frequently pressed her

hand against her head, that the pulse was 136; but that there was no vomiting, nor diarrhœa.

Next day, she was exceedingly restless and agitated; she frequently started screaming; the eyes were fixed; the pupils dilated; she did not answer questions, although she seemed to understand what was said;—face alternately flushed and pale—pulse 120. For several days these alarming symptoms, although less severe, continued. The prognosis was therefore very unfavourable. Very unexpectedly, in the course of a day or two, she began to recognize her mother, but she did not answer any questions put to her; and so insensible was she to external impressions, that the flies crept over her face, quite undisturbed. Notwithstanding these inauspicious symptoms, a decided improvement may be dated to have taken place, on the 11th or 12th day of the disease. The pulse retained, for some time, a great frequency, varying from 118 to 130.—*Archives Generales*.

General Remarks.

The preceding cases, although very imperfectly reported, will be found to illustrate some of the most remarkable phenomena of that most insidious and most dangerous disease, Hydrocephalus acutus. The great obscurity of its approach is well known to all experienced physicians. The child usually has been ailing somewhat, for a week or perhaps longer, before any serious symptom is observed. He has lost his usual cheerfulness; refuses to play; wishes to lie down, or to rest his head on the nurse's lap; and there is generally an irritability of temper, which was not noticed before. The sleep is disturbed; the little patient wakes often crying, or at least moaning; he is thirsty, but has little appetite for his usual food. He dislikes any strong light; and is offended by loud noise. In some cases, a tendency to slight convulsive twitches of the face, neck, or hands, has been remarked in the precursory stage of the disease.

Whenever such a train of symptoms is present, the prudent physician will

have his attention directed to the state of the head. As a matter of course, he will examine into the condition of the thoracic and abdominal viscera; and very often some of these will be found more or less disordered. Still the amount of such disorder will, in all probability, not be sufficient to account for the great constitutional disturbance; and as the encephalon may certainly be regarded as the part of the organization in a young child, which is the most weak and liable to diseased action, it will be prudent at once to take measures to prevent, at least, the accession of more alarming mischief. Briskly purging with calomel and jalap, followed by the repeated use of aperative-diuretic medicines, leeches behind the ears, and cold applications to the head may save the life of many a child, if resorted to in sufficient time. The gums should be examined, and freely scarified, if there is any tenderness, or if the child grinds his teeth.

There are two or three particular symptoms, which when they occur in a child without a very obvious reason, should always excite the prudent apprehension of the medical attendant. One of these is the occasional vomiting of the food. The stomach is usually irritable in the precursory and early stages of hydrocephalus; and hence it has been frequently observed that nausea and retching are present for several days, before the accession of the febrile and more alarming symptoms. It will be wise, therefore, on all occasions, to attend to the occurrence of what may be termed idiopathic vomiting in children—we call it *idiopathic*, because there is usually no very obvious cause for its coming on.

Another of the symptoms, alluded to above, is an accelerated state of the pulse; continuing so steadily, and without intermission or abatement, day after day. Whenever the pulse keeps, for a considerable length of time, above its natural standard in young children, we have strong reason to suspect that some internal mischief is going on. It is, however, to be remarked, that in some cases of hydrocephalus, the pulse is unusually slow during the precursory

stage. This is certainly quite true, and is a fact which should not be lost sight of by the physician; but by far the most common occurrence is to find the pulse considerably and steadily quickened—ranging from 120 to 140, or even 160.

In short, any remarkable deviation from the natural frequency of a child's pulse may well excite some degree of alarm. In the treatment of hydrocephalus, the superior sagacity of the experienced practitioner is shewn not so much in the greater activity or variety of the means which he employs, as in the administration of them in due time. When once either softening of the brain's substance, or effusion on its surface, or into its cavities has taken place, it is very questionable whether the medical art can be of any avail in arresting the mischief. The aim, therefore, of the physician ought to be, to *prevent*, not to *hope to cure*, hydrocephalus acutus.—*Rev.*

CASES OF CROUP, VERY ACTIVELY AND SUCCESSFULLY TREATED.

CASE 1.—A girl, seven years of age, had been affected with tinea capitis for upwards of twelve months. After an exposure to damp and cold, this cutaneous affection suddenly dried up, and cough, difficulty of breathing, and feverishness succeeded. The paroxysms of the cough became more and more alarmingly severe, and were accompanied with the peculiar shrill metallic crowing of cynanche trachealis. The pulse at this time was rapid, soft and compressible. Eight leeches were immediately applied to the throat, and a grain of calomel was given every two hours, along with half a tea-spoonful of a four ounce mixture, containing 3 grains of tartar-emetic, and 4 grains of extract of henbane. The tartar emetic ointment was also rubbed in upon the scalp every four hours.

On the following day, the 10th of November, a spoonful of an emetic mixture containing tartar emetic, ipe-

cacuan and oxymel of squills was ordered to be given very frequently, until copious vomiting was excited; and then, when this was effected, two grains of calomel were ordered to be exhibited every two hours, a small blister to be applied to the chest, and the strong mercurial ointment blended with some powdered camphor and opium to be applied round the neck.

11th. No vomiting has been excited, but the child has repeatedly expectorated a quantity of thick and very viscid phlegm. She is in danger of being suffocated, whenever the head is low. The emetic mixture was ordered to be given every second hour, and the two grains of calomel every intermediate hour:—the throat to be well anointed with an ointment consisting of an ounce of saturnine ointment, with which was mixed a scruple of camphor, and the same quantity of opium, and also of carbonate of ammonia.

The cough became, towards the afternoon, looser and more free, and a quantity of exceedingly viscid mucus was repeatedly expectorated.

13th. Several large pieces of membranous phlegm were brought away by coughing. One of these, two inches long, had quite the circular form of the trachea, and even retained the impressions of its cartilaginous rings. The respiration became freer, the pulse slower, and the sputa began to exhibit a yellowish and red aspect. The medicines were ordered to be repeated at longer intervals.

15th. The child was much better. A mixture containing the extract of polygala senega, tartrate of antimony, syrup of althoea, extract of hyosciamus, and fennel-water was prescribed; and two grains of calomel were ordered to be given every evening.

17th. The sputa are thick and of a yellow colour: the voice is still scarcely to be heard. A decoction of the lichen islandicus along with the senega root, and a few drops of hydrocyanic acid were prescribed. These medicines were continued for a week, and the patient was declared to be quite recovered.

During the attack, 82 grains of calo-

mel, and two drachms and a half of ipecacuan, and nearly half a drachm of tartar emetic had been administered.

Case 2.—Dr. Caspar was summoned to visit a young child 3½ years of age, suffering from a severe attack of croup. Four leeches were immediately applied to the throat; and one grain of calomel, and a dose of antimonial mixture were ordered to be given every two hours. Next day, the disease was worse; the cough being more severe, the dyspnœa more alarming, and the peculiar crowing sound more shrill and loud. The calomel was ordered to be given as before, and the dose of the antimonial tartrate to be increased. Mercurial ointment mixed with camphor and opium was smeared all round the throat and neck.

On the 3rd day (23rd of Nov.) the symptoms, although still very alarming, were somewhat mitigated. The hydrocyanic acid was given repeatedly in small doses three leeches were applied to the sternum; and the calomel was exhibited at longer intervals.

On the 26th, the skin of the face and breast was covered with a measly rash. The eruption spread over the whole body, and the tracheal symptoms threatened to return in all their former severity. Fortunately the little patient got through the attack well, and gradually recovered his health and strength. The aphonia however continued for a long time, and appeared at length to yield to the use of a third part of a drop of cajeput oil given with sugar, night and morning, for some time.

The author has recorded a third case, treated in a similar manner, and with equal success. He alludes to the very large doses of emetic medicines which must be exhibited in this formidable disease, for the purpose of exciting vomiting. The first case affords a forcible illustration of this precept. He has much reliance, he tells us, in the external application of the mercurial ointment, to which some opium and camphor, and sometimes also carbonate of ammonia, are added, as a means of subduing inflammation. He has

recourse to it, with much advantage, in cynanche tonsillaris, and in many other forms of inflammatory action.

To relieve the hoarseness and remove the dregs, as it were, of the disease, the decoction of lichen islandicus and of the polygala senega root, in conjunction with small doses of hydrocyanic acid, has been very useful in his practice.—*Wochenschrift für das gesammte Heilkunde.*

The therapeutic directions in the preceding remarks are exceedingly good, and have a much more practical character, than most of the articles in the German Journals can lay claim to.—*Rev.*

PECULIAR SPASMODIC AFFECTION OF THE THUMB IN WRITING, DRAWING, ETC.

The gentleman, the subject of this most annoying complaint, had up to his 27th year been able to write and otherwise to use his right hand with the greatest ease. He was much given to drawing and painting. In 1801 he began to observe that he could not hold his pencil with steadiness, when engaged in any fine sketch. This annoyance increased so much, that he was obliged to give up his favourite amusement.

The thumb was affected with involuntary twitches; when these ceased, it pressed with so much firmness upon the fore-finger, that any attempt to draw or write was most troublesome and even painful. He experienced however no difficulty in grasping or holding any object with his right hand; but in all more delicate movements, in which the co-operation of the thumb is necessary, there was embarrassment and unsteadiness. In attempting to play on the harpsichord, he could not prevent the thumb from continually striking the notes, for it was in constant motion from right to left. The affection was regarded by some as of a merely nervous, by others as of a gouty character. All sorts of remedies were tried; but none seemed to have the slightest effect. For upwards of five years the patient was obliged to

write with his left hand; and then, most unfortunately, his left thumb began to be similarly affected. He now heard of a fellow-sufferer having derived much benefit from the use of a ring put round the fore-finger, sufficiently large to allow a pen to remain between it and the finger, and tight enough to confine it in its place. With the aid of this simple contrivance he was again enabled to write with his right hand, being now in some measure independent of the co-operation of the thumb.—*Medicine: Zeitung.*

IDIOPATHIC TETANUS AND TRISMUS CONNECTED WITH RAMOLLISSEMENT OF THE SPINAL CORD.

A young man, soon after his admission into the army, found one evening that he could not chew his food, as usual, and that his neck and back were stiff, upon any attempt to move them. Next day he could not open his mouth; the masseter and sterno-mastoid muscles were rigid and hard; and there was an expression of spasmodic laughter on the countenance. A solution of tartar emetic was ordered to be given at short intervals, and the patient was confined to bed. His sensorium was quite clear and undisturbed. the pulse was natural, and his appetite good. He was cupped very freely on the back of the neck, vomited with tartrate of antimony, and had a large blister applied over the nucha. In spite however of these means, the rigidity of the muscles extended and increased, so that all motion was impracticable. A very large detraction of blood by cupping was taken from the spine, and afterwards the patient was put into a warm bath, in which an ounce of caustic potass had been dissolved.

On the 26th (the third day of the disease) the cupping and alkaline bath were repeated; and antimonial mixture containing some laudanum was administered every two hours; frictions with equal parts of mercurial ointment

and volatile liniment along the back were employed, and the blistered surface was dressed, with one grain of muriate of morphia. This treatment seemed at first to have had some effect in moderating the tonic spasm; for the patient was able to open his mouth, so as to admit the introduction of one finger. Towards evening however, the contraction of the dorsal muscles amounted to frequent convulsions; and often a complete state of opisthotonos came on. No change occurred in the following three days, although the very active treatment indicated above was most perseveringly continued.

On the 29th, the cramps had increased in frequency and in severity, and the general rigidity also was greater than hitherto; the pupils of the eyes were small and immoveable; the abdomen was hard and stretched; and the patient was exhausted with alternate shiverings and perspiration. The tartrate of antimony and the muriate of morphia were now tried in the endermic method; two dozen of leeches were applied along the spine; two grains of calomel and a quarter of a grain of opium were administered every second hour; and the alkaline baths were continued. The frictions also with the volatile mercurial liniment were persevered in.

No favourable change however took place; and accordingly, on the 31st, two eschars, each six inches long, were made with the actual cautery along the sides of the cervical vertebræ. But no benefit was obtained; and at length the patient died apoplectic on the morning of the 2nd of November.

Dissection.—The veins and sinuses of the encephalon were gorged with blood. On opening the spinal canal, the vessels of the pia mater were found highly injected; and the spinal marrow itself in two places—the one between the 4th and 7th cervical vertebræ, and the other between the 3rd and 6th dorsal vertebræ—was so much softened that it resembled curdled milk, more than any other substance. The roots of those nerves, which arose from these altered places, were also affected with extreme ramollissement. The

mucous coat of the stomach was softened, loose, and readily tore across in attempting to lift it up.—*Medizinische Zeitung für Heilkunde in Preussen.*

CASE OF SPINA BIFIDA, WITH PRACTICAL REMARKS ON THIS MALFORMATION.

The child was fifteen weeks old, when examined. The head was not unusually large, but the sutures and fontanelles were more open than in healthy infants. The rest of the body was normally formed, with the exception of the lower part of the spine; where a large swelling was situated over the lower lumbar and the upper sacral vertebrae. It was of the size of an apple at birth, but since that period it had increased so much, that now it measured upwards of eleven inches round its base, and projected nearly six inches above the surrounding integuments. The skin was tense, and exhibited a fine network of minute blood-vessels on its surface. There had been an excoriation at one part, which remained open for several weeks, but was now healed. A distinct fluctuation was readily perceptible on examination. The swelling was not diminished in size by pressure made upon it. The health of the child did not seem much affected, with the exception perhaps of its sleep being always restless and disturbed.

A small incision was made in the lower half of the swelling, and between three and four ounces of a fluid, which was at first slightly reddened and afterwards quite limpid, flowed out. The tension of the swelling was considerably diminished. Next day, after a quiet good night, the swelling was found to be again as prominent as ever and it was observed that the fontanelles were unusually depressed. A second puncture was made, and the tumor became now so sunk and flaccid, that the edges of the fissure in the vertebrae could be distinctly felt. On the following day. The operation was performed twice! The infant became restless, un-

easy, and pale; slight convulsions came on, and it died on the fourth day after the first puncture had been made.

On dissection, a quantity of limpid serosity was found in the sac, and in the ventricles of the brain. The spinous processes of the last lumbar and of the first sacral vertebrae were wanting; there was no spinal canal, nor yet any spinal foramina in the sacrum, and the cauda equina hung out of the sac, and lost itself in its thick loose and white walls.—*Hannoversche Annalen.*

Remarks.—Our object, in reporting the preceding case, is chiefly for the purpose of directing our readers attention to the nature of the congenital malformation known by the name of Spina bifida, and to the proper treatment of it. There is nothing unusual or extraordinary in the case we have extracted from the German periodical; nor would it have merited notice, except in so far as it affords us an opportunity of pointing out the extreme impropriety of the treatment which was pursued.

The medical man appears to have acted, as if he had a simple encysted watery tumor to deal with; and he therefore very probably imagined that the mere evacuation of the serosity could not possibly do any harm. Very different is the nature of Spina bifida. It is one of the most serious congenital anomalies or malformations, which can happen to a child. There is an actual defect of the spinous processes and posterior part of the spinal arch of one or of more vertebrae. The spinal marrow is thus exposed, and generally protrudes through the fissure, in consequence of its sheath being distended with serosity. The mere discharge of this serosity may diminish indeed the size of the swelling; but this is, as it were, the mere outwork of the disease. The 'fons et origo' of the mischief is the defect in the formation of the vertebrae.

These bones have been—in consequence of some cause or another, the nature of which we do not at all understand—arrested in their progress to mature development, and have not closed or coalesced in their posterior part, thus leaving the spinal cord ex-

posed. We have already alluded to this subject in the article on philosophical anatomy in the present number of this Review, and need not again dwell on the very curious and most interesting topic, as illustrative of the Centripetal development of the vertebræ, of their primitive duality, and of their subsequent coalescence in the median line. At an early period of embryotic life there was, so to speak, a spina bifida along the whole course of the spine; all the vertebræ were open behind, and the spinal cord was exposed from the cranium to the sacrum. The formation of the spinous processes is the latest step in the development of the vertebræ. Now if from some cause this development is stopped or impeded at any part of the column, while the rest of the column meets with no stoppage or impediment, then the child at birth exhibits a Spina bifida at that part.

This is the simple and rational explanation of this congenital defect. What adds very much to the seriousness of the malformation—a consideration which ought necessarily to influence our prognosis—is the circumstance of almost all infants born with spina bifida being found to have some other defect or anomaly. Thus it has been observed that hare-lip is very frequently co-existent with this affection. A tendency to hydrocephalus chronicus, indicated by a large head, open state of the sutures is also a very common complication. It is most important therefore to bear in mind that a congenital malformation like spina bifida ought to be viewed, not simply as a mere local anomaly, but rather as one proof, among others, of a tendency in the constitution to imperfect development.

The vital powers of a child affected with spina bifida, chronic hydrocephalus, or even with the less serious congenital malformations of hare-lip, fissured palate, umbilical hernia and such like (all of these being examples of imperfect coalescence of parts, which are normally separated from each other at an early period of fetal existence), are very generally more feeble, and much more apt to give way under disease,

than those of perfectly-formed infants. Very many of them sink long before the process of dentition commences; and those, who do survive until this period, almost universally suffer long and most severely. This hint ought not to be lost on the practical physician. Let him examine attentively those children who are very backward in cutting their teeth, and who are more subject than others to fits, &c. at this time, and he will find that they are generally pale and feeble children, whose heads are large, or at least in whom the fontanelles are more open than usual, who are affected with umbilical hernia, in whom the testicles have not descended, or who, in short, exhibit some mark or another of retarded development and imperfect growth.

Such being the case, it is almost unnecessary to state that the treatment of all such congenital defects, as spina bifida, requires the greatest caution and delicacy. It is not by merely discharging the fluid of the tumor, that we can ever rationally hope to cure this malformation. In most cases, we believe that the best-directed efforts of the scientific physician will prove abortive, and that the infant will not survive many months. They generally go off in a paroxysm of convulsions. Certainly in no case is the treatment, which was so injudiciously followed in the preceding case, to be adopted. In the course of *four* days, to perform *four* operations!! This is really mail-coach speed in surgery. Even had the swelling been a simple abscess, or encysted watery tumor, such rapidity of execution would have been most reprehensible. But in so serious an affection as spina bifida it was positively murderous.

When we determine to draw off the serum, the puncture should be made with a fine needle at several points, rather than with a large instrument at one point. It is much safer that the fluid should ooze slowly out, than be discharged quickly. Gentle and uniform pressure should be kept up for a length of time; and one, or even

several weeks, according to circumstances, ought to clapse, before we have recourse to another operation. Meanwhile the greatest attention is to be paid to the health of the infant, and all judicious means resorted to, for the purpose of invigorating the constitution, and assisting nature to carry on the reparative process.—*Rev.*

IMPERFORATE ANUS. SUCCESSFUL
FORMATION OF AN ARTIFICIAL ANUS
IN THE RIGHT GROIN.

An infant, three days and a half old, was found to have no anal aperture. The raphé of the perineum extended from the scrotum to the point of the os coccygis, without any interruption.—The child was jaundiced all over; the abdomen was hard and distended; there had been no vomiting, and of course no alvine evacuation. It had taken the breast repeatedly, and had also voided urine several times. An incision was made at the usual place of the anus, and a trocar was introduced for at least an inch or more in the direction of the rectum; but without any effect. It was, therefore, deemed unsafe to penetrate to a greater depth; and a proposal was made to open the cæcum in the right iliac region. This was accordingly done. An incision was made through the integuments immediately in front of the anterior superior spinous process of the os ilii, and when the peritoneum was opened, a portion of small intestine escaped. This was replaced, and the caput cæci being found, an incision was made into it. Several ounces of a consistent meconial matter immediately flowed out, with great relief to the symptoms. The progress of the case was most satisfactory (der Fortgang warganzerwünschet); copious alvine evacuations began and continued to escape. On the eighth day after the operation, the stitches of the abdominal wound were removed.

In a second case of congenital obstruction of the bowels, in which however the anus was quite normal, and the rectum was pervious as far as the

finger or catheter could reach, the operation of establishing an artificial anus in the right groin was not acceded to by the parents. The infant died on the third day after birth; and, on dissection, the whole extent of the large intestine was found to be so much contracted, that it did not exceed in size that of a large goose-quill. When slit open, it was filled up with a membranous-looking stuff of a yellowish white colour, which adhered very firmly to the walls of the gut. The valvula coli was much contracted. The inferior extremity of the ilium was distended with thick meconium; the rest of the small intestines, and also the stomach, contained an offensive fluid of a yellowish-green colour.—*Medizin. Zeitung für Heilk: in the Preussen.*

CASES ILLUSTRATIVE OF PUERPERAL
FEVER.

CASE 1.—*Abortion—Phlebitis of the Hypogastric and Iliac Veins and of the Vena Cava—Purulent Arthritis.—Dissection.*

A washerwoman, 44 years of age, was admitted into the Maternité on the 8th of January, 1835, three weeks after she had miscarried. She mentioned that she went out to her work on the fourth day, and caught cold; that she had then suffered from flying pains through the abdomen, and that the lochia had entirely ceased from that date. A few days subsequently she experienced a smart rheumatic attack in the left knee and elbow, attended with general feverishness. The affected joints became more painful, in spite of free leeching. When admitted into the Hospice, she complained much of the left elbow joint, the slightest movement of which occasioned severe agony. The left knee also was very painful, and was much swollen, apparently from an effusion into the synovial capsule; the patella being raised up, and the distended capsule swelling out on each side of it. The skin covering the joint was red and inflamed in patches. The abdomen was free from

uneasiness, even on pressure, although the bowels were relaxed. The pulse was 116: the respiration was frequent, but not embarrassed; the skin was hot; the tongue was parched and red at the tip and corners; and there was a continual wakefulness, but no tendency to delirium. The patient was bled to 14 oz.—laudaniſed cataplasms were applied to the affected joints, and a grain of opium was administered. On the following day the blood drawn was found to be strongly buffy; the left shoulder-joint had become painful and inflamed, and the diarrhœa had increased.

It is unnecessary to detail minutely the progress of the case. The prostration of all the vital powers increased daily; the abdomen became tympanitic the tongue was covered with a dry brown crust; the urine and fœces were sometimes passed involuntarily, and the patient was frequently delirious. On the 22d (the fourteenth after admission), she was seized with a violent fit of shivering, which lasted for many hours, and was followed by profuse sweating. She lay almost insensible, being generally either delirious or comatose.

She lingered on for eight days more; the affected joints having remained in the same painful swollen state to the last. Mercurial frictions on the abdomen constituted the chief part of the treatment after the 16th day of the month, when M. Rostan, under whose care the patient was, began to suspect that her disease was not ordinary rheumatism, but rather that singular and very fatal form of arthritis, so often connected with phlebitis, and in the present case with that form of it which is apt to follow metro-peritonitis.

Dissection. The affected joints were first examined. The cellular substance around the left shoulder joint was infiltrated with pus; but none was found within the articular capsule. The capsule was not discoloured, but contained within a synovial fluid of a more yellow hue, and of a more viscid consistence than in health.

The elbow-joint contained a small quantity of well-formed pus: the sur-

face of the capsule exhibited a granular appearance, and here and there a patch of "rougeur pointillée." A larger quantity of purulent matter was found in the knee-joint, and its synovial membrane was observed to be in part raised or detached on the inter-articular cartilages, and elsewhere to be red in patches. There was no trace of pus in the surrounding cellular substance; and the muscles of the thigh and leg were quite healthy.

The cephalic and thoracic viscera did not present any decidedly morbid appearances. In the lungs, although they were congested towards their inferior and posterior parts, there were none of the purulent deposits, nor any of those circumscribed engorgements which have been so well described by M. Dance, and which precede the formation of metastatic abscesses in the pulmonary tissue.

The liver was equally free from such lesions. However, on the upper surface of the spleen there was a small abscess filled with well-formed pus; the tissue of the viscus itself was not sensibly altered, except at one point, about the middle of its anterior surface. There, it was of a brown colour, of a firmer consistence than elsewhere, and it was easy to perceive that numerous vessels converged towards this point. We may, therefore, regard the change as the result of a circumscribed engorgement.

The uterus—its muscular tissue and its blood-vessels—was minutely examined; but no decided traces of disease were discovered. The veins however which traversed the broad ligaments, especially those at the lower parts, were greatly indurated, so that they gaped like arteries, when divided. The cavities of these, and also of the hypogastric veins, were filled with yellowish grey fibrinous clots, which adhered very strongly to the parietes. These changes, the induration of the parietes, and the partial obstruction with clots—were traced along the hypogastric and common iliac veins to the vena cava, which was found to be much larger than usual. Its parietes were greatly thickened from the poin

of bifurcation to where it passes behind the liver; and, on slitting it open, its cavity was found occupied partly with thick pseudo-membranous concretions, which adhered strongly to the parietes, giving them a granulated aspect, and partly by a long coagulum, in the centre of which was purulent matter. Some of the veins also of the ovaries were similarly diseased as those which we have described.

Remarks—The case, which we have now detailed, is one of great interest in a practical, as well as in a pathological point of view.

The disease in its earlier stages appeared to be ordinary rheumatism; but the great prostration—not an ordinary symptom of this disease—the gradual aggravation of all the constitutional distress, and the obstinacy of the local sufferings, excited the suspicions of M. Rostan that there was a deep-seated mischief going on somewhere. The history of the case, the previous miscarriage, and the invasion of the shivering fits, led him to pronounce it to be chronic metro-peritonitis.

The pathologist will not fail to notice the very limited extent of visceral lesion in the present case, considering the number and the importance of the veins so seriously diseased. Dance, in his able memoir, has alluded to this discordance between the extent of the phlebitis, and the number of the secondary suppurations. In some of the cases recorded by him, as well as by other pathologists, there were found abscesses not only in several of the joints, but also in many of the muscles and viscera, when only a few inches of one or two inconsiderable veins were inflamed; and here, in the present case, the vena cava itself and some of its most important branches were deeply diseased, and yet the only viscus, which exhibited any traces of secondary supuration, was the spleen.

Another topic for consideration, suggested by this dissection is, where did the phlebitis commence? The veins of the substance of the uterus did not present any traces of morbid change. These appeared first in the veins of the

broad ligaments, and extended from them into the hypogastric veins. Are we to suppose that the phlebitis commenced in the veins of the broad ligaments without previously affecting those of the uterus itself?

M. Dance was of opinion that in all such cases the inflammation *debutait* in the uterine sinuses, and was propagated along these to the remoter branches. We must confess that we hesitate quite to assent to this doctrine, in the very face of such dissections as the present; and the chief reason for our hesitation is, that, 'quand des veins ont été enflammées au point de donner lieu à suppuration de leur parois, ces veines s'oblitérent, et c'est parce seul mécanisme que s'opère la guérison.' This obliteration had taken place in the following two cases, which also occurred in the Maternité Hospice.

CASE 2. — Metro-peritonitis, which disappeared—chronic enteritis—death—ulcerations of the intestines and uterine phlebitis.

This patient a girl 19 years of age, was seized with pain in the hypogastric region, towards the iliac fossæ, on the third day after accouchement. Feverish symptoms also made their appearance; but the repeated application of a number of leeches induced a decided relief. The bowels however became relaxed, and along with a return of the abdominal tenderness, which was now diffused over the whole belly, an unexpected prostration of strength was remarked. The pulse had become frequent, small and feeble, and the patient was much distressed with the repeated evacuations from the bowels. Mercurial ointment was ordered to be rubbed freely over the whole abdomen, and opiate enemata were administered. The patient lingered for nearly five weeks. The diarrhœa, although mitigated, had never been quite checked, and an almost constant state of feverishness had existed during the whole time.

Dissection.—The lungs were sound, with the exception of having a few tubercular depositions. The paren-

chymatous viscera of the abdomen were free from disease. The large intestines were throughout much thickened, and in various points ulcerated. On examining the uterus, parts of its substance were found to be healthy, and other parts to be, as it were, ecchymosed.

On its anterior surface, near to the insertion of the broad ligaments, there were several firm, cylindrical, and tortuous cords, which, when divided, proved to be veins plugged up with 'pus concret solide, analogue à une fausse membrane, dont l'organisation est déjà fort avancée. The right ovary appeared to be quite atrophied, and the left one was much smaller than usual. (Here the report of the dissection most abruptly ceases. Nothing is said of the state of the larger veins.)—Rev.

CASE. 3.—Metro-peritonitis followed by chronic enteritis — ulcerations in the large intestines, and traces of cured phlebitis.

A young girl was safely delivered of her first child after an easy labour. For the following two days she was going on well. On the third she was suddenly taken with a shivering fit, which was followed by pain and tension in the hypogastrium.

On the next day the features were much altered, the decubitus (position in bed) was dorsal, the abdomen was much distended, *apparently from effusion having taken place.* The bowels were purged, the lochia were scanty, and there was no secretion of milk. Prescription.—Rizavec sirop degomme, trois pots. Potion gommeuse avec diascordium. Deux vesicatoires aux cuissés. Ongment mercuriel ziiij. pour douze frictions. Bain de siege. Demi-lavement d'amidon, et de pavot avec laudanum de Rousseau, gout iv.

The progress of this case was much more rapid than that of the preceding one, for the poor girl died after a week's suffering.

Dissection.—The cephalic and thoracic contents healthy. *No effusion within the abdomen.* The small intestines but very slightly altered; the colon thickened, and its mucous surface inflamed

in patches and exhibiting a thin layer of fibrinous exsudation.

When this layer was removed with the edge of the scalpel, the mucous membrane was found ulcerated. The blood-vessels at the sides of the uterus and within the folds of the broad ligaments were impervious, from being filled up with 'pus concreté analogue aux fausses membranes,' which firmly adhered to their parietes. These obstructed vessels could be traced through the substance of the uterus, but not beyond the broad ligaments, and the larger venous trunks were free from any change.

In another case, where the patient had died three weeks after her accouchement which had been followed by violent metro-peritonitis, the following remarkable appearances were found on dissection. There were gangrenous eschars over the trochanters and sacrum. The cellular substance around these bones was infiltrated with purulent matter, and the extremity of the sacrum and the coccyx were denuded. The sacro-coccygean joint was filled with pus and the ligaments were destroyed.

The cephalic, thoracic, and chylopoietic viscera were sound. The uterus was glued by fibrinous filaments, anteriorly to the omentum and posteriorly to the rectum.

On the left side, the round ligament, the ovary, and the Fallopian tube were bound down by strong adhesions. When the substance of the uterus was cut into, numerous yellowish-white points were seen. These could be easily traced in different directions, and proved to be caused by the uterine veins filled with 'un pus pseudo-membraneux.' This lesion of the veins did not extend beyond the broad ligaments.

From this, and from the preceding two cases we are taught the process, by which the cure of uterine phlebitis is effected. The affected vessels become plugged up with coagulable lymph, and are converted into impervious cylinders, so that the pus cannot be transmitted into the larger trunks.—*Archives Generales.*

LAMENTABLE CASE OF DIFFICULT PARTURITION. DISGRACEFUL CONDUCT OF M. ROUX, AT THE HÔTEL DIEU.

We can scarcely trust ourselves to express our opinion of the inhuman conduct of M. Roux, one of the leading surgeons in Paris, and successor of Dupuytren at the largest hospital there. The mere facts of the case will abundantly speak for themselves. A woman, 28 years of age, was admitted into the Hôtel Dieu at three o'clock in the afternoon, having been taken with labour-pains on the preceding evening at seven o'clock. She was of very short stature, (scarcely four feet) and of a "constitution eminentment rachitique." She had been pregnant twice before. Her first child was delivered by the forceps, after a labour of twenty hours. Her second had at the full period been born without much difficulty, and by the unassisted efforts of the uterus. The midwife, who attended her in her last labour, having this time waited in vain for the advancement of the child's head, called in the assistance of several physicians. Three came, and the forceps was applied "sans resultat." She was then taken to the Hôtel Dieu. The membranes had been ruptured in the attempts to apply the forceps, the labia were swollen and painful, the vagina was tender, and the cervix uteri was lacerated. The head of the child had scarcely entered the cavity of the pelvis, and, just below and somewhat behind it, the promontory of the sacrum was felt to be unusually projecting. The reporter of the case says that, in order to ascertain the exact position and state of all the parts, he introduced his entire hand, and from this examination he inferred that the conjugate diameter of the inlet was about two inches and a quarter. When M. Roux examined, he was at first doubtful whether it was the head which presented—it felt to be so much elongated and flattened. Under these circumstances (!) he resolved to apply the forceps. The introduction of the blades was most difficult, tedious and painful. He made several attempts to extract, but all in vain. At

length "pressé par le temps ! obligé de se rendre au concours de l'école où il est juge!! et desespérant d'en venir au bout!!!" he left his wretched patient with the forceps in her body, promising to send to her assistance his son-in-law, M. Danyon, "who," said he, "understands better than I do these sorts of operations." M. Danyon however was not to be found, and it was not till nearly two hours afterwards that M. Roux returned accompanied by M. Dubois. He (M. Dubois) immediately removed the forceps, and extracted the child by embryotomy. The poor woman died in 30 hours afterwards.

Such is the reported history of this awful case, and in confirmation of its truth we are informed that M. Dubois, in his clinical lectures, "a raconté lui-même ce fait et en a confirmé toutes les particularités."—*La Lançette Française*.

We shall offer no comment on the above description. We much fear that such cases are not uncommon in France, as well as in other parts of the Continent; for, despite the high names of Dubois, Capuron, Siebold, &c., the state of midwifery is truly lamentable, in even the neighbourhoods of Paris and Vienna.

The treatment of the foregoing case was simple and most obvious. The patient ought to have been bled freely, and the os uteri allowed to become freely dilated. If, when the head of the child had fairly entered the brim of the pelvis, the forceps could be easily applied, all very well;—but no force ought to have been used; and if these attempts had failed, and speedy delivery had been deemed requisite, recourse should at once have been had to embryotomy. Our readers know well the high opinion which we have of Dr. Collins' treatise, reviewed in our number for last July. The precepts there inculcated, "Nocturnâ versate manu, versate diurnâ."—*Rev.*

PROFESSOR NAEGELE ON DIFFICULT
PARTURITION FROM THE AGGLUTINA-
TION OF THE OS UTERI.

Among the occasional impediments to an easy delivery, most obstetric writers have enumerated the occlusion of the os uteri, in consequence of previous inflammation, or of callosities, scirrhus indurations, cicatrices, &c.

This occlusion may be either complete, or only partial. In some cases it is so complete, that all traces of the orifice are almost obliterated, and great difficulty is experienced in ascertaining exactly its position. But this is an extreme case, and few examples of it are recorded by any author. The lesser degrees of this lesion are not unfrequent; and perhaps they are more common than is generally supposed, as it is not improbable that a certain degree of morbid agglutination of the os uteri may exist during the early period of labour, and may gradually give way to the contractions of the womb during labour, before the accoucheur has made any examination.

Madame La Chapelle has alluded to some varieties of the occlusion of the os uteri in her valuable treatise on midwifery.

"We have sometimes," says this famous sage-femme, "found it difficult to discover the external or vaginal orifice of the uterus, in consequence of its being closed up by thick gelatinous mucosities. The edges of the orifice may be so strongly agglutinated, that it resists for a great length of time the parturient efforts of the uterus. When this is the case, it is not unfrequent that the parietes of the uterus near its cervix become so much extenuated, and the head of the child is thereby felt so distinctly, that the accoucheur may suppose that the membranes only intervene between it and his finger, while the os uteri is not at all open." We have reason to suspect the occurrence of this accident, when at the commencement of labour, the inferior segment of the uterus descends very deeply into the pelvic cavity, and yet its orifice cannot be easily discovered; or when the orifice feels to the finger like a fold, or cup-like hollow, some-

what depressed in the centre and not corresponding to the axis of the pelvis. In proportion as the uterine contractions during labour acquire more force, the lower segment of the uterus is pushed more and more down into the pelvic cavity, and its parietes become excessively stretched and thin, so that they resemble to the touch rather the mere membranous envelops of the foetus, than the muscular walls of such an organ as the uterus.

This extreme degree of attenuation of the uterine parietes may lead the inexperienced accoucheur to commit the awkward and very dangerous mistake of endeavouring to rupture them in a tedious labour, supposing them to be the protruding membranes.

The only safe rule to follow, is to avoid all manual interference, unless the os uteri can be distinctly and indubitably ascertained.

Notwithstanding the severity and the continuance of the pains, the uterine orifice may not only remain firmly closed, but may also become more and more elevated, and be carried at the same time more to one side of the pelvis than the other. After the pains have existed for a length of time, and when the energies and strength of the poor sufferer appear almost quite exhausted, Nature will sometimes induce a gradual relaxation and opening of the orifice. If this favourable event does not take place by the mere efforts of Nature, or with the assistance of art, the uterus will either rupture, or become totally paralysed and powerless.

The cause of the agglutination, to which we are now alluding, is in most cases a previous inflammation of the cervix uteri. Often when there is occlusion of the orifice, there is also a coexistent prolapsus uteri, and generally more or less of leucorrhœa. The inflammation may have proceeded so far as to have induced an ulcerated state of the cervix, accompanied with an exudation of coagulable lymph round the edges, causing them to adhere. These serious changes sometimes take place, without having excited any very obvious symptoms at the period of their formation.

The pseudo-membranous and fibrous

tissue, which constitutes the bond of agglutination, is quite similar to "cette matiere qui sert de moyen d'union entre la placenta et la matrice, les poudrons avec la pleure costale, et les intestines ent'eux, on avec la paroi abdominale lorsque l'inflammation se termine par adherence."

It is not easy to determine at what period of gestation the agglutination, unconnected with any lesion of structure of the cervix or of the os uteri, generally commences. In one case which occurred in the practice of Naegele, the orifice was quite patent six weeks before delivery. Bartholin seems to have observed the agglutination, of which we are speaking, in the early months of pregnancy. A woman, five months encephale, was affected with paraplegia from the haunches downwards. As there was no chance of saving the life of the mother, an attempt was made to extract the child by force; but in spite of every effort, the accoucheur "could not penetrate into the uterus." On dissection the uterine orifice was found firmly plugged up. [Is there any thing extraordinary in this?]*—Rev.*

The agglutination, of the uterine orifice is to be distinguished from the "occlusion de ce canal," when the cervix has contracted adhesions with the posterior wall of the vagina. In the latter case, the orifice is not to be felt at that part of the uterus which is protruded into the hollow of the pelvis. The traces of an inflammation, of ulcerations, of cicatrices, indurations, &c., and the escaping of the waters—which cannot take place when the cervix uteri adheres to the vagina—will serve to render the diagnosis more satisfactory. The agglutination of the cervix cannot be confounded with any contraction of this part induced by cicatrices, or by scirrhosities; for the finger, or, if necessary, the eye will always, in the latter cases, detect, either at the orifice or in the adjacent structures, the true nature of these changes,

In all such examinations, the accoucheur should never permit himself to be satisfied, unless he can feel distinctly, and unequivocally ascertain the

os uteri. We have known more than one instance in which the uterine parietes, stretched and attenuated by the inclosed liquor amni and child have been mistaken for the mere enveloping foetal membranes. Much injury may be inflicted by a rash practitioner who has made this mistake. With respect to the prognosis in cases of the agglutination of the uterine orifice, we may very generally consider it to be favourable, provided the accident has been ascertained sufficiently early, and the treatment pursued has been judicious. Perhaps the chief source of the danger, is the possible exhaustion of the woman's energies, during the early stage of labour before the mouth of the uterus begins to dilate.

If the obstruction be very unyielding, and be not relieved in time, palsy and even rupture of the uterus may ensue. But such events will never happen in the practice of a well-formed accoucheur. If he has reason to suppose that agglutination of the os uteri is the cause of the protracted and inefficient labour-pains, he will introduce his forefinger, or a bougie, or female catheter into the orifice, and with gentle pressure rupture the opposing adventitious membrane. A few drops of blood usually follow this operation. The finger is to be preferred in most instances to any instrument. There, is however, very little risk of rupturing the foetal envelops even with the bougie;

Some accoucheurs have most improperly recommended that the obstruction be overcome by incision; but such practice is not only quite unnecessary, but is always dangerous.

In confirmation of the preceding statement and opinions, Professor Naegele has adduced the following cases.

A woman, 38 years of age, pregnant with her third child, was admitted into the Heidelberg Midwifery Hospital.—On examination it was found that there was a prolapsus of the right wall of the vagina. Labour commenced on the evening of the 10th November. The liquor amni had been draining off since the preceding day, before the pains had commenced. The uterine contractions

had continued during all the night and the following day, and although they were strong and even violent, the os uteri remained obstinately closed. The orifice was directed backwards, and somewhat to the left side, and presented no trace of distinct labia, but only a transverse slit, or aperture with a smooth and unresisting margin. During the second night the labour-pains ceased altogether, and the patient slept. On the 12th no progress was made. When the cervix uteri was depressed with the finger, it was found that the os uteri had not become at all dilated in consequence of its extreme rigidity, and that by pushing the finger on with gentle force, "une trame filamenteuse," which had held the edges of the uterine orifice agglutinated, gave way under the pressure. From this moment, the orifice, although the pains were very feeble, began to expand: they continued all the afternoon and following night, and on the following morning, the woman was safely delivered of a dead child.

Portal, in his *Pratique des Accouchemens*, published in 1685, has related a very similar case. The labour having been unusually tedious, he found on examination that by pressing the finger on the os uteri, which at the time was not at all dilated, a membrane as tough as parchment gradually gave way. The pains thereupon speedily became effective, and delivery was safely completed.

Sandifort in his *Thesaurus Dissertationum* has given the particulars of the post-mortem appearances found in a case which had occurred in his practice. "The cervix uteri was situated opposite to the second sacral vertebra, and felt much attenuated. On the side of the uterine cavity it readily admitted the point of the fore-finger; but on that of the vagina, it was so firmly closed that even a common quill could not be introduced, and the resistance could not be overcome by even 'une forte impulsion.' It seemed to be of an almost aponeurotic character."

In the *Transactions of the Swedish Academy*, the following case is recorded. A woman had been for eight

days in labour. The pains continued to be violent in spite of four bleedings, which had been practised. The lower segment of the uterus had become so much stretched and depressed, that it was at first taken for the protruding bag of the membranes. In the centre of it however a small slit, plugged up by fleshy filaments, was to be felt. By introducing the point of a female catheter into this slit, these filaments were readily ruptured. A few drops of blood followed. The labour-pains continuing, the os uteri began soon to dilate, and delivery was completed within a short time.

The narrator of this case attributed the agglutination to an inflammatory affection of the vagina and neck of the womb, which had occurred about three weeks before labour.

In another case related in the same work, the symptoms were very similar. After the labour-pains had continued for two days, an examination was made. The lower part of the uterus was excessively distended and attenuated, and in spite of the most accurate examination, no distinct trace of the os uteri was discoverable. At the lower and posterior part a small fold, not bigger than a barley-corn, was to be felt; and this was presumed to be the uterine orifice. A female catheter was conveyed along the finger to this point and pressed firmly against it, so as to rupture the 'fibres charnues,' which closed up the opening. The finger was then gradually passed through it; and, soon afterwards, strong labour-pains came on and effected the delivery of the child.

In the second vol. of Siebold's *Journal für Geburtshilfe* an instructive case of agglutination of the os uteri is given. The woman had been 48 hours in labour, when the physician was called. Neither he, nor another practitioner could detect the os uteri, and the head of the foetus was felt so distinctly that, at first they mistook the attenuated uterine parietes for the protruded bag of membranes.

On the following day, another examination having been instituted, a small opening, obstructed by a mem-

brane which gave way upon pressure with the point of the finger, was to be indistinctly felt. Behind this membrane, the os uteri was found dilated to the width of more than an inch.

In the Med. Chirurg. Zeitung for 1821, an instance of agglutination is communicated by Dr. Rainer, who employed a bistoury to divide the contracted orifice, and was afterwards obliged to have recourse to the forceps to extract the child. The patient recovered speedily and well. (Surely the German ladies can stand rougher usage, under the hands of their accoucheurs, than those of other countries.)
—Rev.

Two other cases, where recourse was had to the use of a cutting instrument to divide the obstructing membrane and part of the cervix uteri, are mentioned by Naegele in his memoir; but, as he himself condemns the practice, we need not communicate the particulars, except only to state that both of the patients recovered without any unpleasant symptoms.—*Mogostocia e conglutinatione orificii uteri externi.*—Auct. H. F. Naegele, 1835

The preceding remarks from the pen of so distinguished an obstetrical writer as Professor Naegele may be deemed worthy of the attention of those, who engage in midwifery pursuits. We must however confess that, in our own practice, we have seldom met with cases of dystocia or difficult labour, where the impediment might be properly attributed to a mere adhesion or agglutination of the uterine orifice in consequence of a previous exsudation of lymph, and of the formation of a connecting adventitious membrane; but we are unwilling to oppose our own opinion to that of the celebrated German. Certain it is that, we do meet occasionally with cases, in which the uterine tumor becomes much depressed in the pelvis, and the walls of the uterus become so very thin, that they are apt to be mistaken for the protruding bag of the membranes, the os uteri remaining, all the while, firmly closed. The inexperienced accoucheur requires to be put on his guard against this accident; and his first and fore-

most duty therefore on all occasions, is to ascertain the position and state of the orifice.—Rev.

TREATMENT OF THE INSANE.

The pamphlet, from which we extract the following observations, is one of those lately sent to us by Dr. Warburton of Palermo. The regulations, medical, and economical, of the Royal Lunatic Asylum instituted there about ten years ago, are truly excellent. They were drawn up by Dr. Pisani, the director and chief physician of the establishment. We are pleased to find that the use of fetters and of all harsh restraint has been entirely abolished, and that the mildest means of confinement only are ever resorted to. The sixth article runs thus:—"Although it is a principle now universally recognised, that the method of treating and curing insanity ought to be founded chiefly on moral management and discipline of the patient, we are not to forget the important aids, which may be derived from judicious medication. It is therefore quite indispensable that in a lunatic establishment there should be resident physicians, who are intimately acquainted with the physique of man, and who know how to adopt, in each particular case, all those indirect curative means, such as local and general bleeding, the use of blisters, of the douche-bath, &c. which skill and science may suggest. It is of great importance that, the insane themselves should be convinced that the cure and management of their cases are intrusted to competent medical men, as the idea, that insanity is an incurable disease, has been far too generally prevalent among the vulgar."

In a subsequent article we find the following excellent observations: "The moral cure or management is the chief, perhaps the only, method of curing the insane. The basis of this method is seclusion or separation, which has been found to act in a direct and powerful manner on the operations of the mind. When a patient is admitted into the

institution, all intercourse with his relatives is interdicted. The presence of them almost invariably excites violent commotion, and renders the characters of the insane much more intractable. A long course of observation has convinced us that the insane never recover their reason completely, in the bosom of their families. A change of scene and objects will generally produce in time a change of ideas."

There is a laudable humanity and kindness in the regulation which forbids the employment of the words "insane," "mad," (*pazzo, folle, matto*), in the institution, and which has substituted the title of superintendent for that of master or keeper. This hint may be very becomingly adopted in our own country. How often do we hear of the unfortunate inmates of asylums reproaching their friends for their unkindness, and protesting that they are not *mad*. It is an offensive epithet, and often, we are certain, aggravates the excitement of the patient.

Dr. Pisani recommends in strong terms that the insane should be encouraged to take regular and daily exercise, as walking, gardening, and playing at ball and racket, &c. in the open air, and to occupy himself with innocent recreations and amusement within doors, more especially music, cards, billiards, &c. The female patients are encouraged to assist in the labours of the kitchen, dairy, and washing-house.—Dr. P. suggests the propriety of always rewarding the invalids with some small remuneration for every task, which they may do.

The resident medical officer has four pupils attached to his service, and it is the duty of these to draw up the reports of each case on admission, and to perform all the minor operations which may be deemed necessary. The bodies of those who die in the institution are all carefully dissected, and the crania, and any other part, which is thought worthy of especial notice, are preserved in the museum.

A chaplain is attached to and resides in the institution. His duty is to celebrate the mass every day to the insane, to assist them in all their religious ob-

servances, and to administer extreme unction to the dying.

We have already stated that all harsh means of restraint or punishment have been abolished by the directions of Dr. Pisani. The only modes of confinement which he ever employs is the use of the straight-jacket, and seclusion in a solitary room. The rotatory chair, the surprise-baths, &c. are prohibited. The use of a continued stream of cold water on the head, along with the restraint of a straight-jacket, will be found sufficient to tame the most furious maniacs.

Our limits prevent us from making any more extracts from these "*istruzioni*;" but we feel the sincerest pleasure in recommending them, as forming an admirable code of rules and regulations for the management of a lunatic establishment.

PROFESSOR LALLEMAND ON SPERMATORRHEA.

The distinguished Professor of Montpellier has recently published a treatise on involuntary seminal emissions, in which he has minutely described the symptoms, most frequent causes, the pathology, and the treatment of this most insidious and offensive disease. He states:—

"In the course of the last 14 years I have collected upwards of 1500 cases of involuntary spermatorrhea, in all of which the health was seriously affected, and in many death was the consequence. The greater number of the patients had been directed to me, *for supposed cerebral affections*. In not a few of the cases, it had been supposed that the patient suffered from chronic gastritis, or gastro-enteritis, from aneurism of the heart, from incipient phthisis, or from some of the multifarious forms of nervous disturbance, and most frequently from hypochondriasis."

The cases, adduced by M. Lallemand exhibit examples of persons, whose constitutions had been vigorous and robust presenting at the period of life when the body has acquired its development, and without any appreciable cause, all the symptoms of physical exhaustion, as-

sociated with a very marked feebleness of the mental powers.

In examining attentively the probable cause of this premature decrepitude, it was frequently discovered in an existing spermatorrhea, or seminal weakness. The opinion of the author, who recognises in a protracted spermatorrhea the cause of numerous encephalic distresses, is confirmed by the consideration that, in some fatal cases where cerebral congestion, the decay or perversion of the intellectual faculties, the exhaustion of the physical energies, &c. have existed for a length of time, no signs of morbid change, except in the genito-urinary organs, are discoverable on dissection. The most frequent and the most potent cause of spermatorrhœa is, according to Lallemand, an inflammation affecting the secretory and excretory apparatus of the semen—an inflammation which, commencing in the urethra and prostate gland, is apt to extend to the vasa efferentia, vesiculæ seminales, vasa deferentia and testicle, as well as to the urinary bladder.

ON THE CURATIVE PROPERTIES OF CHLORINE, AND OF THE CHLORIDE OF LIME.

In *Typhus Abdominalis*. Dr. Truse has for many years derived great advantage in his practice from using the aqua oxymuriatica, or liquid chlorine, in almost all cases of typhus fever.

He exhibits a drachm or more of it every two hours, in combination with syrup and some mucilaginous decoction. In addition to the use of this means, he applies leeches to the epigastrium; sponges the surface of the body and limbs with cold vinegar and water, directs cold lotions to the head, and rubs the abdomen with mercurial ointment. The use of the aqua oxymuriatica—an ounce or so in 24 hours—may be continued for eight or ten days; and then exchanged for some light bitter tonic.

In *Intermittent fever*. The form of this pyrexia, in which Dr. T. has found most benefit from the use of the chlorine is the irregular or illegitimate variety of ague, in which the paroxysms do not

return regularly, and the intermissions are not entirely free from feverishness. Under these circumstances the bark will often fail; and for this reason, that the disease is not genuine *intermittent*, but rather disguised *remittent* fever. After the chlorine has been continued for a few days, it generally happens that a distinct and well-marked paroxysm of fever takes place, and this is succeeded by a complete pyrexia.

In *Gastric Fevers*. The aqua oxymuriatica is so admirable a remedy in all cases of this fever, that often there is no occasion to have recourse to any other medicine for its speedy cure. When the fever has reached its second stage, the chlorine may be most advantageously combined with small doses of rhubarb and ginger, as in the following formula.

R. Rad. rhei, ʒj. Rad. zingiberis, ʒss. infunde in uncis sex aquæ ferventis. Colat. admisce aq. oxymuriat. ʒj. Olei sacchari menth. piperit. ʒss. Misce. A table spoonful may be given for a dose frequently.

In the *Exanthemata*. The oxymuriatic acid appears to possess, in addition to its admirable effects in allaying the febrile exacerbations, a remarkable power against the principle of the contagion (ansteckungs. stoff.) Our author praises its efficacy more especially in scarlet fever. In variola he recommends not only its internal, but also its external use. It may be applied either as a wash, or as a liniment with oil.

The chloride of lime is a most serviceable application in a great variety of outward sores. It forms an excellent gargle for foul ulcers of the mouth. For this purpose, eight ounces of the decoction of rhatany root may be poured on two drachms of the powdered chloride.

In almost all torpid, phagedenic, scrofulous and herpetic sores, the solution—three or four drachms dissolved in a pound of water—will be found to be a most convenient and useful application.

In varicose ulcers the best treatment consists in applying the chloride solution during the day, and in sprinkling the surface of the sore with lapis calaminaris during the night.

CLINICAL REVIEW.

HOSPITAL MEDICINE AND HOSPITAL SURGERY.

IN Dr. Latham's little volume, intitled Lectures on subjects connected with Clinical Medicine, there are some observations on physic and surgery, which are not uninteresting.

"At first all students are averse from visiting the sick; they have no fancy for the wards, either medical or surgical, and they especially shrink from the surgical. But when the repugnance is got over, and an interest begins to be felt, that interest is almost sure to be for surgery in preference to medicine; and yet, when they settle in life, their skill in surgery will be little called for, but nine out of ten of the cases which they treat will be medical.

Now, one reason why surgery is more popular than medicine is, that it is easier. Do not, I beseech you, imagine that I wish to disparage surgery. In a profession like ours, nothing can shew such bad feeling, or such bad taste, as purposely to let fall expressions which cast an imputation of inferiority upon those who happen to cultivate a different portion of the same field of science and usefulness from our own. And even here I will allow, if you please, that cases occur in the department of surgery, beset with difficulties and perplexities, which we in the department of medicine do not meet with, and which require information, and judgment, and skill of the highest order to surmount.

But I am now speaking of the ordinary routine of cases, such as we find them in hospitals; and, upon a comparison of such cases, surgery is certainly much easier than medicine; and students take to it the more kindly because it is easier.

Surgery, for the most part, requires fewer circumstances to bring you to a knowledge of its object than medicine does. In surgery there are prominent

points of interest, which arrest and command the attention at once; in medicine the points of interest are to be sought after; and, being found, are to be retained and cherished by much labour of the understanding. External sores, external inflammation, and broken bones, require only to be seen and handled in order to be known. But the same knowledge which, in surgery, is obtained by the use of the senses, in medicine, which is conversant with internal disease, can only be acquired by a process of reasoning; and reasoning is more difficult than seeing and touching, and its conclusions are more uncertain, and much more liable to error.

Moreover, the adaptation of curative means requires more vigilance in medicine than in surgery. There is no end of the circumstances to be taken into consideration day after day, in order to practise medicine with tolerable success. A man has an *external* inflammation; the surgeon sees it, and is at once sure of its existence; he prescribes for it, and sees its gradual decline as plainly as he first saw its rise and progress. A man has an *internal* inflammation; but the physician, not seeing it, is obliged to come to the knowledge of its existence by a great variety of considerations: he prescribes for it, and is again obliged to enter into a variety of considerations before he can know that it has begun to decline, or has ceased. The uncertainty of physic I readily admit; but I do not admit the vulgar reproach which has followed from it. There is nothing absolutely sure but what rests upon the basis of numbers, or falls within the sphere of the senses. Where reasoning begins, there begins uncertainty; and on this account the highest and the best things in the world are all uncertain, and so is our profession. But from this very uncertainty those who practise it successfully claim their greatest honour; for

where there is no possibility of error, no praise is due to the judgment of what is right.

Another reason why surgery is more popular than medicine is, that it is easier for pupils to make surgical cases a matter of discussion and conversation among themselves, and thus to convey an interest to each other respecting them. They can agree about the extent of this burn and that fracture, and understand each other when they talk about them; but concerning the progress of a fever, and all its circumstances—how they differ to-day from what they were yesterday, and what influence the means employed have had in determining the changes which have taken place—it is quite impossible that they should have any very general conversation. It is necessary to be in the presence of the patient to point them out. Language often fails of terms to designate them; and the most experienced often find a difficulty in making themselves intelligible to each other in speaking of them. There once flourished within these walls "The Medical and Philosophical Society of St. Bartholomew's Hospital." I fear it exists no longer. The time was that it was attended weekly by at least an hundred students and others. There was often no lack of discussion, and good discussion too, upon professional subjects; but the subject was almost always a *surgical* subject. I have already shown the reason why it was so. It could not be otherwise.

Again: young men like to be doing something—something that shall be real employment. Thus they are gratified while they are plastering, and binding, and dressing, &c. They see and they feel that they are promoting some object daily and hourly, with their own hands, for the benefit of the sick. But in medicine, the quiet and almost passive manner in which they are engaged about the sick, requires a state of mind which is seldom possessed in early life.

Why do I mention all these things? In order to shew you that I am well aware of all the circumstances which are

apt to abate your interest for that department in which it is my duty and my desire to promote your instruction, and of all the difficulties which I have to encounter, when I attempt to win you to it.

No doubt there is much truth in this; but probably there is not the whole truth. Surgery is not merely easier than physic, it is more exact, and, from its exactness, it is more satisfactory.

One man has a pain in his bowels. The physician says that he has inflammation in them. In accordance with his opinion, he prescribes leeches, perhaps calomel and opium, or some other medicines. The patient grows better, gets well, and there is an end of the matter. There is not much of demonstration in a case like this, nor is there much to interest a student independently of demonstration.

Another man has a pulsating tumour in his ham. It is increasing, and the student sees that it is a dangerous, and, if unheeded, will soon be mortal disease. The surgeon says it is an enlargement of an artery, and explains that if that artery is tied nearer the heart, and the current of blood through the tumor diminished, the pulsation in it will cease, and ultimately the tumour itself will disappear. The surgeon *does* tie the artery in the thigh, the pulsation of the tumor *does* cease, the tumor *is* finally absorbed. In such a case there is much of demonstration, much to arrest and to fix the attention of a student.

There is a "pomp and circumstance" in the practice of surgery, which there is not in that of physic. There is all the solemnity and all the éclat of the capital operations. In an amphitheatre, crowded with spectators, the surgeon is seen plunging with confidence and coolness his formidable instruments into the inmost recesses of the body, and, in the midst of blood and groans, he extracts the calculus, or ties the vessel. All this is adapted to seize the attention of the student, who perceives at once the value of knowledge both to the surgeon and the patient. When he contrasts the physician smelling a

stool, with the surgeon wielding the catlin or the gorget, is it surprising that he is caught with the glitter and display of the craft of the latter?

Then there is the novelty of operative surgery. As an apprentice, the pupil has made up pills, and compounded draughts, nay he has seen something, perhaps much, of their employment. Practically, he knows a little of the *materia medica*, practically, he knows less, but still something, of medicine. But anatomy and physiology, and surgery which hangs by them, are all new things to him. The charm of freshness is added to those of comparative simplicity, and demonstration, and the result is, as Dr. Latham has remarked, a preference for what, a very moderate acquaintance with the human mind, would lead us to suppose would be naturally preferred.

HULL GENERAL INFIRMARY.

REPORT OF SOME CASES. By Mr. HENRY SNOWDEN.

For the succeeding cases we are indebted to the gentleman, whose name we have inserted above. We have not the pleasure of an acquaintance with him, but, if we may judge by the present report, and by his communications to the *Medical Gazette*, he evinces a zeal for the profession which redounds greatly to his honour.

1. SOFTENING OF THE BRAIN.

George Bigsby, ætat. 57, entered the hospital January 7, 1836. Six days previously he was attacked with vertigo, and a dull pain in the head, which he referred to the right parietal region; this recurred only at intervals. At the same time the sensation of the right half of the face became diminished. There was also profuse lachrymation of the right eye. He had enjoyed in general good health, but had been an intemperate liver.

On admission the following symptoms were observed. Face flushed:

conjunctivæ injected—protrusion of the globe of the right eye, which deviated to the left side, its vision was much impaired, and the sensibility of its mucous covering abolished. Left commissure of mouth drawn upwards—sensation of the right half of the face diminished. The motion of the left extremities (particularly of the upper) impaired, with a sense of coldness. Vertigo, pulse 85 and full, tongue white, bowels open daily, excretions passed voluntarily, sleep undisturbed. There is no disturbance of intelligence.

Dr. Alderson, under whose care he was admitted, prescribed

V. S. ad xxij .

C. C. ad nucham, postea empl. lyttæ ibidem. Capt. Olei. ricini ʒss . statim—Mistur. salin ʒj . 4tis horis.

16th. Cutaneous sensibility of the left inferior extremity diminished. Torpor of the intelligence. Pulse small. App. empl. lyttæ ponē aurem dextram; cureter ulcus unguent. sabinæ.

22nd. Vision of the right eye lost—muscular debility. He was ordered Infus. rosæ c. ʒj . Magnes. sulph. ʒss . ter in die.

Feb. 1. Improvement as to the motion and sensation of the extremities, other symptoms the same. He was asked repeatedly if he had pain, but always replied in the negative, frequently however he would raise the sound limb to the right side of his head, as if some undefinable sensation were there.

From this time to the 25th, no material change was observed, if any thing there was amendment of the paralysis.

On the 25th, a slight cough with dyspnœa announced the existence of pulmonary disease. Over the inferior lobe of the right lung the stethoscope discovered a crepitous râle. There was no heat of the skin, and the pulse being 78 and small precluded the employment of active treatment.

Daily aggravation of the pulmonic symptoms, orthopnœa, asphyxia, and death on the 7th of March.

Inspection twelve hours after death.

Cranium.—The subarachnoid cellular tissue infiltrated with serum, and here and there opaque. In the right hemis-

phère of the cerebrum were two softening, each of the size of a large nut, one situate in the middle, the other in the posterior lobe. In the middle lobe of the left hemisphere a softening of like extent. In the right hemisphere of the cerebellum a softening of the size of a pea, in the left, one fully equal to a large walnut. The superior portion of the pons variolii was a mere pultaceous mass. These were all red softening. In the right corpus striatum and right hippocampus major were small points of yellow softening.

Thorax. Lungs generally engorged. The parietes of the heart were soft; a tuberculous mass was found in the posterior mediastinum.

Abdomen. Kidneys soft, other viscera healthy.

The functional disturbances in this rare case were by no means proportional either in severity or variety to the extent and locality of the softenings, neither were there any symptoms, except those affecting the eyeball, which aided the diagnosis in particular. The circumstance of the patient when questioned as to his suffering pain, applying the sound limb to the side of the head, which sign is considered by Rostan of great value, assisted in the general diagnosis.

2. CASES OF ADHESION OF THE PERICARDIUM.

Edward Shields, æt. 22, was admitted into the Infirmary August 26, 1835, under the care of Dr. Alderson. He complained of pain and tightness over the chest, had frequent palpitations; dyspnœa, slight cough, with copious mucous expectoration. His countenance was pallid and anxious, lips purple, pulse 90, full and intermittent (a pause every third beat), tongue clean, appetite good. He could not endure the recumbent posture. He stated that he had been ill six months, he attributed his complaint to an inflammation of the side. He had had rheumatism.—There was a slight prominence of the cartilages of the præcordial ribs. The motion of the heart was abrupt and unsteady. A loud murmur resembling

the crackling of new leather accompanied both sounds.

He was ordered leeches to the region of the heart. Calomel in small doses. He continued in this state till the 4th of September, on which day, after eating a full meal, he died suddenly.

On inspection 24 hours after death, there were found pleuritic adhesions. The pericardium adhered to the heart in the greater part of its extent, in the free spaces were patches of lymph, apparently of recent formation. Heart hypertrophied and dilated.

Mary Perkins, ætat. 20, received into the hospital April 16, 1836, under the care of Dr. Alderson. Two years ago had had rheumatism. She stated that since that time she had been subject to palpitation of the heart, it did not however, produce much inconvenience till about a month before her admission.—She then was attacked with dyspnœa, slight cough, trembling and faintness. These symptoms became more urgent. On admission, in addition to the above, the following symptoms were observed. Countenance pallid, lips of a purple hue, pulse 84, full and thrilling, hands puffy, tongue clean, appetite good, decubitus in any position. Above the clavicles a purring tremor and strong pulsation were sensible to the touch; the impulse of the heart was slightly increased, but long in being effected, the apex struck the thoracic parietes to the left of and inferior to its usual position. The purring tremor was evident in all the arterial trunks, it was traceable also along the sternum to the heart.

She continued in this manner for some days, when suddenly she was attacked with violent vomiting. A few days before death, which occurred on the 21st of May, the ventricles contracted irregularly, and the dyspnœa was excessive.

On inspection, 24 hours after death, the pericardium was found universally adherent to the heart. The heart was greatly dilated, the dilatation being chiefly confined to the left side. The margins of the semilunar aortic valves were thickened.

Charlotte Lenham, ætat. 15, entered the hospital March 2, 1837, under the care of Dr. Alderson. Two years ago had been in the hospital for acute rheumatism, during the progress of which pericarditis supervened. She left the hospital, cured of her articular rheumatism, but her heart laboured, and she had dyspnœa. She was long an out-patient. She re-entered the hospital in October, 1836. After a little time she returned home. When again admitted she presented the following symptoms. Countenance pallid, cellular tissue infiltrated with serum, short hacking cough, no expectoration, urgent dyspnœa, decubitus impossible, palpitations, pulse from 90 to 100, full and regular, occasional pains over the region of the heart, sleep disturbed, appetite impaired.

The impulse of the heart slightly increased, the first sound was louder and heard over a greater extent than usual. There was no abnormal murmur.

She was ordered leeches to the region of the heart. Calomel and digitalis in small doses. Acupuncture of the legs. On the 16th of March violent vomiting set in, this aggravated all the symptoms. On the 21st death.

On inspection there were found pleuritic adhesions. The pericardium was universally adherent to the heart. The heart was dilated and slightly hypertrophied. Pale serum in the peritoneal sac.

3. TUBERCULAR SYCOSIS OF THE LEGS.

Two cases of cutaneous disease of a species hitherto, I think, undescribed, occurred during the Autumn of the past year. In one case a mass of tuberculous or mammillated elevations extended in a serpentine direction from the inner malleolus to the tubercle of the tibia. From these exuded a thin purulent fluid, and here and there the surface was covered with dark incrustation. In the other case the character of the disease was the same, but it was less widely diffused. The disease in both cases had existed several months before the patients entered the hospital,

and a variety of applications had been ineffectually employed. Struck with its analogy to sycosis menti, Dr. Alderson suggested the application of a poultice of linseed meal. The poultices were changed thrice daily. In six weeks the disease was cured.

DONCASTER DEAF AND DUMB INSTITUTION.

DIFFERENCES IN THE POWER OF ACQUIRING THE LANGUAGE OF GESTURE IN THE DEAF AND DUMB.

The following observations are extracted from the Phrenological Journal for June, 1837. They are communicated to our contemporary by Mr. Scott, of the Deaf and Dumb Institution.

"The uneducated deaf and Dumb have no knowledge of our language, and can only express their thoughts and desires by gesture, as nearly representative of such as they can make them. Thus deprived, in a great measure, from communicating with their fellow beings, or gaining any knowledge from books, the first and great aim in their education, is to give them the power of comprehending and using language as a means of communication. An instructor, under such circumstances, has a good opportunity for observing the different degrees of aptness, if such exist, in acquiring this knowledge, and whether it be always in proportion to the powers exhibited in acquiring other kinds of knowledge. There is also an opportunity of observing whether these powers, and the development of the phrenological organs, be in harmony.

In the case under consideration, the boy, who is about fifteen years of age, has been at school upwards of four years, and the progress he has made in the knowledge of words is extremely limited. One with a moderate capacity for such acquirement would do as much in half the time. But this want of talent is confined to language. In many other branches of knowledge he

is decidedly superior to most of the children in the school. He draws correctly and with ease. In calculations of number, he is about on an average with the generality. What, however, he most delights in, is in constructing pieces of mechanism; in this occupation he would be constantly employed, and he is very clever in the use of tools. Any piece of mechanical work he sees, if it be not very complicated, he can comprehend, and imitate. The phrenological development, I think, on examination, you will find in perfect accordance with the character I have shortly given. His perceptive organs are all good, with the exception of Language, which is certainly small. Individuality, Weight, and Size are large, Constructiveness is very large, and in satisfying this propensity is his chief pleasure.

I remarked, that the mode of communication used by the deaf and dumb, when unable to apply language, is that of imitative signs. There is in this often a great difference exhibited by different children, in the minuteness and clearness with which they relate what they wish to express. Some give only an outline, as it were, of the circumstances, the more prominent features; others will not only give the outline, but fill up the detail, with striking exactness, putting in every little incident which can illustrate or give character to the representative."

HOSPITAL OF THE 2nd DRAG. GUARDS.

SUPPOSED GLANDERS IN THE HUMAN SUBJECT.

Mr. Brown, surgeon of the 2nd Dragoon Guards, has published the following case in our contemporary of Dublin.* The case occurred in the Hospital of the Dragoon Guards, at Cahir Barracks, in Ireland.

Case. Corporal John Wells, æt. 38, a strong and healthy man, was suddenly awakened from an unrefreshing sleep, on the 16th of April last,

* Dublin Journ. May, 1837.

by rigors, headache, and irritability of stomach, all of which continued unabated when admitted into hospital next morning: complaining, in addition, of severe continued pains, and stiffness in all his large joints, which became excessively aggravated on the slightest motion. It appeared that he had had sole charge, for some time, of a glandered horse, which had been destroyed on the evening of his attack, and that he had exerted himself greatly in cutting up and burying the carcase. Though the symptoms he displayed are the constant precursors of a combination of severe acute glanders, and farcy in the horse, no suspicion of the sort was entertained with respect to him. He was treated for acute rheumatism, but on the morning of the 19th, he was so much worse that Mr. Brown and Dr. Home became alarmed.

"From this period, the constant and general pain, night and day, became excessive, and violent to a degree; but particularly over the left shoulder, which on examination, shewed the scapula slightly tumefied, although not inflamed; but being above the temperature of health, leeches were frequently applied over its entire surface; and it bled profusely for some hours after, without affording the least relief; but it shortly after became hard, ecchymosed, and insensible to the touch.

The severity of his sufferings continued unabated; and on the morning of the 24th, seven days after admission the tumour over the scapula had assumed a dark livid colour, and attained a considerable size, resembling, in a strong degree, the shoulder of a man recently and severely punished.

Similar tumefactions, but more circumscribed, were now observed on the legs, arms, and sacrum, and one of considerable magnitude over the left temple, which had already distorted the entire face. The eye being apparently diminished and humoury, the lids tumefied, the inferior one with a prominent doubling in it, the conjunctiva pale and infiltrated, as well as the membrana nictitans and caruncula lachry-

malis. The skin and cellular membrane of *this* tumor, together with those on the extremities, became like *that* on the scapula, hard, insensible to the touch, and of a dark chocolate colour: convincing us that the application of leeches to the original one, was not instrumental in the production of those appearances, as we had then supposed. The right nostril was likewise contracted, and gummed with an inspissated discharge; and he complained of constriction of the throat, with difficulty in swallowing cold liquors, but not those previously warmed; and on examination, the posterior fauces were found much inflamed, and nearly of the same purple hue as the tumors on the surface; the whole of which observed regular gradations from their commencement: first showing themselves, not simultaneously, but in succession, by a slight discoloured puffiness of the skin and cellular membrane; generally nearest the bone; they were next observed after a lapse of twelve or fifteen hours, diffused over their entire surface with a deep vermilion blush, which then changed rapidly into a dark brown; the integuments becoming thick and callous, with fissures or superficial cracks, from which exuded a thin, acrid, corrosive sanies. These formed their characteristic appearances without any very material deviation, or producing the slightest mitigation of suffering throughout, which had now become so excruciating as to baffle every effort of art to procure either sleep or rest: not even whilst in the warm bath has he had a moment's respite from pain.

His thirst from the beginning had been great, with a foul parched tongue; his pulse varying from 88 to 96, and full, but easily compressed; and the blood abstracted at the commencement of this disease appeared much attenuated, buffed, and deprived of the coagulating principle. His bowels (constantly attended to) were easily kept free, and his excretions, both urinary and alvine, were always natural in every respect, showing the alimentary canal perfectly healthy.

In this state he advanced into the

morning of the 28th, his eleventh day under treatment; when several distinct, warty pustules, considerably raised above the surface of the skin, were first observed on different parts of the body, very much resembling yaws, but particularly numerous and large over the right side of the neck and shoulders, and on the inside of the arms and thighs."

The patient survived, in a state of partial somnolency and low delirium, until the 30th, when he died.

Dissection.—"The entire surface exhibited a most unsightly deformity, with extreme emaciation, being nearly covered by black gangrenous tumors of various sizes, each surrounded by numerous small vesications about the size of peas, which, with those over the neck, shoulder, arms, and thighs, at first sight resembled the yaw pustule, but on cutting into them they were found to be merely elevations of the cuticle filled with a dark, violet-coloured, inspissated lymph. Glanders being suspected, the fingers, &c. were searched for a scratch, but none was found, nor were the absorbents discovered to be inflamed. Beneath the scalp, over the left superciliary ridge, was a cluster of tuberculated bodies, imbedded in the cellular tissue, external to the pericranium.

"At this stage of the dissection, the presence of our highly talented and much esteemed veterinary surgeon, Mr. Woodman, was solicited, and on his arrival he unhesitatingly recognized a strong resemblance between *these* and *those* usually found in the nasal linings of glandered horses after death."

The mucous membrane lining the frontal sinuses and æthmoidal cells appeared throughout not only pale, thickened, and infiltrated; but in the right frontal sinus was found another cluster of what Mr. Woodman considered to be "well-defined, ulcerated tubercles, and exactly similar in appearance to what we have in the membrane lining the frontal sinuses and other cavities of the head in *acute* glanders in the horse."

The posterior fauces were of a dark purple colour, and on the right tonsil

there were four or five ulcerated patches of a similar character with the preceding.

"We now resumed the examination of the trunk, first inspecting a large, hard, cancer-like tumour, spreading backward over the scapular region, and downwards by the serratus and latissimus dorsi muscles, the most prominent part having cracked or separated previous to death, from which exuded a thin, highly fetid ichorous sanies; and on cutting through this disorganized mass down to the bone, the muscles appeared perfectly decomposed, and of a dark livid colour, (exhaling a peculiarly fetid odour, similar to cariosity,) with points of purulent matter, as it were, infiltrated everywhere through its entire substance, resembling much a hepatized or tuberculated lung; and on removing the whole of this diseased mass from the bone, the scapula was observed nearly covered by a cluster of grey, circular tubercles, the whole composed of fine cellular tissue, enveloped in small cysts, and firmly attached to the periosteum, differing only in this respect from those found in the pericranium."

The other tumors of the sacrum and extremities had all characters exactly analogous to the preceding.

The muscles, generally, were blanched and flabby, the fibres softened, and the cellular membrane infiltrated with a yellow serosity.

Mr. Brown observes that in this case there was no *evidence* of inoculation of glands. Yet the phenomena render it not unlikely that the patient had imbibed in some measure that poison. At the same time, we must view cases of this nature with extreme suspicion, and must be slow to admit of specific infection unless the proof is extremely strong.

Modern investigations have shewn that the affections of the cellular membrane are so various, so severe, and occasionally so complicated, and the phenomena connected with the re-absorption of pus are so startling, that the best-informed pathologists will be the last to extend implicit credence to reputed specific inoculations or contami-

nations. We cannot say that we have seen a case exactly like the preceding, but certainly we have seen many cases of diffuse cellular inflammation and purulent deposits which might readily be conjured up into instances of poisoned wounds. We do not make these observations with the view of throwing cold water on the present case, but simply for the purpose of recommending caution and rational scepticism.

NORTH LONDON HOSPITAL.

DISLOCATION OF THE CARPUS BACKWARDS.

Hannah Hussey, aged 15, admitted April 22d, 1837. She stated that her right hand was resting on the end of the heavy box of a mangling machine, whilst her brother was at the wheel by means of which the box is moved upon rollers; the latter gradually approached a wall behind her, and " *jammed*" the forearm lengthways between the machine and the wall, producing the dislocation. She immediately came to the hospital, arriving there about a quarter of an hour after the accident, when the nature of the injury received was very evident. She suffered great pain;—the forearm and hand were in the prone position, and presented a very distorted appearance;—the forearm was shortened;—there was a remarkable prominence on the back of the radius and ulna, the anterior surface of the first row of carpal bones lying upon the posterior surface of the ends of the radius and ulna;—above this prominence was a deep depression, and the projection presented an arched appearance, the convexity towards the elbow;—the ends of the radius and ulna were very apparent on the palmar surface, and the styloid processes were easily distinguished;—below these, there was another deep depression. The fingers were not rigid—they were extended, but not violently so, being supported in the hand of her mother as she came to the hospital; she had not the least power of moving them, or of supining

her arm. With the assistance of Mr. Burton, I immediately reduced the dislocation; he grasped the fore-arm, immediately below the elbow, with both hands. I grasped her hand with my right hand, and the wrist with my left, placing my thumb over the dislocated carpal bones. By means of firm extension with my right hand, and pressure with the thumb, the bones were readily returned to their natural situation—gradually and without any noise. After the reduction the wrist was exceedingly moveable:—there was then no swelling, and it was easily ascertained that there was no crepitus, and that the moveability did not depend upon fracture of the radius.

The fore-arm was placed in a sling; she was directed to foment the wrist frequently with hot water; and some aperient medicine was given to her.

April 23rd. This morning I proceeded to her residence (No. 9, Little Edward Street, Cumberland Haymarket), for the purpose of ascertaining exactly the manner in which the injury had been produced. A mangling machine is placed along one side of a room, and the frame-work is within three or four feet of a wall at right angles with the other one, in order to allow of the movement backwards and forwards, of the heavy box beyond the frame-work. The box contains a ton and a quarter of iron, and is moved upon rollers. Her brother was gently turning the handle, and the girl's right hand was placed upon the end of the box, when her attention was directed to a dog which she was fearful would frighten some chickens which were in the room; the box gradually approaching the wall, the elbow reached it, and the carpus was dislocated backwards. Her brother reversed the direction of the box, immediately that she hallooed "stop." No laceration or bruise is observed on the elbow.

Mr. Liston examined the arm. There is now great effusion in and around the joint, extending to about two inches above it on the palmar, not quite so high on the dorsal surface of the arm; there is considerable redness of the integuments. She cannot extend the

fingers in the least; but can flex them slightly. She was directed to continue the fomentation; the bowels have been freely opened.

April 25th. The swelling and redness are still extensive. She can extend the fingers very slightly, which is attended with pain along the back of the arm; and flexion is attended with great pain along the fore-part of the arm. Continue the fomentation.

April 27th. The swelling and redness have somewhat diminished. To-day, Mr. Liston again very carefully examined the wrist, and came to the conclusion that the radius was not broken.

The preceding case has been communicated to us by Mr. Herbert Barker, the zealous and intelligent house surgeon of this hospital. We present it without any alteration.

GUY'S HOSPITAL REPORTS. No. IV. FOR APRIL, 1837.

The present number contains few articles, but much matter. Insulated cases are almost banished from its pages, which are devoted either to original essays or to general results—a judicious, and, as probably, the event will prove, a successful plan.

The contents of the number are as follows:—

- 1, A Practical View of Lithotrity, with Remarks on the Lateral Operation of Lithotomy; by Mr. Aston Key—
- 2, Observations on the Diagnosis of Pneumonia; by Dr. Addison—
- 3, Two Cases of Fatal Poisoning by Arsenious Acid, with Remarks on the Solubility of that Poison, in Water and other Menstrua; by Mr. Alfred S. Taylor—
- 4, An Essay on the Safety-valve Function of the Right Ventricle of the Human Heart, and on the Gradations of this Function in the Circulation of Warm-blooded Animals; by Mr. T. W. King—
- 5, An Experimental Inquiry respecting the Process of Reparation after Simple Fracture of Bones; by Mr. Bransby Cooper—
- 6, Summary of Cases in the Obstetric Ward—Statistical Account of

the Lying-in Charity—Reports of Obstetric Cases; by Dr. Ashwell—7, Description of a Remarkable Specimen of Urinary Calculus, to which are added some Remarks on the Structure and Form of Urinary Calculi; by Dr. Hodgkin—8, Cases and Observations illustrative of Diagnosis, where Tumors are situated at the Basis of the Brain; or where other parts of the Brain and Spinal Cord suffer Lesion from Disease; by Dr. Bright—9, Illustrations of the Museum—by Dr. Hodgkin.

These nine articles are spread through 318 pages, and their length must, therefore, be considerable. Indeed it is very creditable to the officers of this hospital that they are able and willing to furnish the materials, at short intervals, of volumes at once so bulky and so valuable as these Reports have hitherto been. The first paper of which we shall give an account, is:—

1. A PRACTICAL VIEW OF LITHOTRITY; WITH REMARKS ON THE LATERAL OPERATION OF LITHOTOMY. By Mr. ASTON KEY.

Mr. Key commences with some candid, and, as it seems to us, judicious observations on the relative value of lithotritry and lithotomy. He dwells on the exaggerated estimate which some from enthusiasm, or, from other motives, have advanced, and which others from credulity have implicitly received, of the merits of the former. It has been represented as an easy, a painless, a safe, and a successful operation, when, too frequently, it is neither easy, painless, safe, nor successful. Mr. Key's sentiments coincide to the letter with those which we expressed in the 50th Number of this Journal.* We need not, therefore, repeat them, but content ourselves with relating the more prominent facts brought forward by Mr. Key, facts which deserve attention because he personally vouches for their authenticity.

Mr. Key relates twelve cases. The first we shall allude to are those in which the operation of lithotritry was successful.

Case 1. A Mr. L. was sounded by Mr. Key, who discovered a stone of a size well adapted for lithotritry. As his bladder was not irritable, it was decided that a well-known lithotritist should operate upon him. The operation was performed at several sittings, and with complete success.

Case 2. "Mr. C—, a surgeon, was brought to me by Dr. Gordon, in order to ascertain if he had stone in the bladder; as certain symptoms, of which he complained, were considered to depend on the presence of a calculus. On sounding him, I struck a small calculus; and he expressed a desire to undergo the operation of lithotritry, under the same operator. After one stone was broken down, a second was discovered; and he underwent several operations; the operator telling him that he had crushed several entire calculi. Mr. C—returned home, assured that he was freed from the cause of his disorder. I saw him in three weeks after the last operation, and his bladder still continued to be irritable; but this symptom gradually ceased; and he appeared, when I last saw him, to be altogether freed from his disorder."

Case 3. "A surgeon in active practice, was seized with considerable hæmaturia after exercise, and soon complained of symptoms that gradually assumed the character of vesical calculus. On sounding him, a small stone was discovered; and he placed himself under the care of a lithotritist. The stone was crushed after three operations, and he obtained entire relief from his disorder. He now remains well.

These are all the successful cases which Mr. Key can report. The next, six in number, are those in which lithotritry proved unsuccessful.

Case 4. "In 1829, an Irish gentle-

* *Art. Lithotomy and Lithotritry. Pp. 465, et seq.*

man, Mr. H——, about 64 years of age, arrived in this country from Paris, to obtain professional advice for a vesical disorder. I learnt that he had undergone the operation of lithority under M. Civiale, about six weeks previously; and that the operation had been followed by acute inflammation of the bladder, for which M. Amusat was consulted. As soon as the cystitis subsided, he came over to this country, labouring under symptoms of stone in the bladder, which, in severity, I have only on one occasion seen exceeded.—The desire to void urine was nearly incessant, and the attempt excruciating, and often unsuccessful. He lingered out a miserable existence for a few weeks, receiving such relief as medicine could afford. On passing a flexible catheter to relieve the bladder, I discovered a considerable fragment of stone. Sir Astley Cooper saw this gentleman several times, and considered him beyond the reach of any operation. He died with his sufferings unmitigated."

Case 5. "Mr. E——, between 50 and 60 years of age, had been annoyed for some time with symptoms of disorder, which Mr. Giraud, of Feversham, found to arise from a calculus in the bladder. He came to town, at the request of Mr. Giraud, to consult me. Finding the stone small, I gave him the alternative of the two operations. He preferred lithotritry; and went to a well-known operator with a note of introduction from me. He underwent the operation; and the stone was broken down at several sittings. Before returning to Feversham, he called upon me, and seemed feverish and ill; and I learnt subsequently, from Mr. Giraud, that he died, with typhoid symptoms, shortly after his return into the country. An abscess was formed in the neck of the bladder, at the base of the prostate gland."

Case 6. "A gentleman from the country, a patient of Mr. Elliott, of Stratford, was discovered to have stone in the bladder, and consulted me respecting it. Finding it to be small, I

proposed to break it down; and employed Charrière's drill-instrument for the purpose. Meeting with several obstacles in the attempt, I abandoned it; and he afterwards was placed under the care of the same lithotritist, who broke up, as I was afterwards informed, a small phosphatic calculus. The patient left town with a very irritable bladder, and suffering much in voiding his urine. I subsequently heard, from Mr. Elliott, that he lived for twelve months, with increasing suffering.—On his death, the bladder was discovered to be diseased, and several stones were found in it."

Case 7. "Admiral C—— wrote to me from Exeter, to make some inquiry respecting the operation of lithotomy; as he was suffering from a calculus in the bladder. I replied to his inquiries and was requested to make the necessary arrangements for cutting him. In the meantime, I was informed, by a friend, that he had placed himself under the care of the same lithotritist, and that the stone had been successfully broken down. Admiral C—— left town, but quickly experienced symptoms of a return of his disorder; and one or two fragments were, I believe, again detected, and crushed. He was thus relieved for a time; but experienced a second return of his pains, and died not long after his return into Devon. On the examination of his body by a surgeon at Exeter, six or seven calculi were found, formed, as I was told, on the remnants of the original calculus."

Case 8. "About nine years ago I operated on Mr. Sanders, of Tottenham, and removed a lithic-acid calculus. He recovered in a few days after the operation, which was performed with the assistance of Mr. Holt and Mr. Edward Cock. About three years ago he came to me again, with symptoms of stone; and, on sounding him, I discovered a small one, and told him that it was small enough to be broken down. He placed himself under the care of the same lithotritist, who crushed a small phosphatic calculus. He left town as soon as he was pronounced cured. Almost

immediately after his return home, his pains in making water increased so much, that he said the pain of the stone was as nothing. He became feverish; and his bladder would not retain urine for an hour. I saw him, at the request of his surgeon, Mr. Moon, and thought that he might have some fragments remaining in his bladder. I passed a catheter, but could not detect any. His extreme irritability of bladder prevented any accurate examination by injecting it with warm water. He was averse to this latter measure, from the pain which he had always suffered when it had been formerly done. He died without any mitigation of his symptoms taking place."

Case 9. "Mr. S—, a patient of Dr. P—, was found to labour under retention of urine, caused by the presence of a small calculus in the bladder. He was lately placed under a lithotritist's care, for the purpose of operation. The stone was crushed, and the patient supposed to be cured. I subsequently met Mr. S—, at the house of Dr. P—, and heard him describe symptoms that indicated the presence of fragments in the bladder. I expressed this opinion to him; and told him to lose no time in applying to a lithotritist. Whether any further attempt was made to relieve him, I did not learn; but he was seized with bleedings from the bladder, which, joined to the irritation that he experienced, in a week or two destroyed him. On a post-mortem examination, several calculi were found in the bladder; and each was discovered, when broken, to be formed on a fragment of the crushed stone. A fungus had also shot forth from the cervix vesicæ, from which the bleeding had taken place."

The next three cases were considered by an eminent lithotritist, unfit for the operation of lithotrity, and were subjected to that of lithotomy with success. Such cases, of course form an important element in any comparison of the two operations."

Case 10. "I was desired to visit Mr. N—, aged 70, with Mr. Burrows,

surgeon in the City, in order to ascertain if he had a calculus. He had been supposed to labour under stone, but it had not been detected. On sounding him, a calculus was immediately struck by the instrument, and gave me the impression of being large. I explained to him the different operations that might be performed for his relief: and he gave the preference to lithotrity. The same operator met us at the patient's house; and sounded him with care, in order to ascertain the size of the stone, and the condition of the bladder. The former he discovered to be above the ordinary size: and the latter so irritable and contracted, that it would admit of a very small quantity of water only being injected. Under these circumstances, he was thought an unfavourable subject for lithotrity. I therefore removed the stone by the lateral operation, in the presence of the lithotritist and Mr. Burrows. The operation was difficult: and the extraction of the stone not easy, on account of its size, and the enlarged state of the prostate gland. He was convalescent at the end of the second week: and has remained, up to the present time (nearly five years), free from any symptoms of his former disorder."

Case 11. "I met Mr. Finch of Greenwich at the house of a gentleman nearly 80 years of age, who was much distressed by very urgent symptoms of urinary calculus. I was informed, that a lithotritist had sounded him, and, from his age, and the great irritability of his bladder, declined to operate.—His health being good, I saw no objection to lithotomy being performed, notwithstanding the enlargement of his prostate gland, and the irritable state of the mucous lining of his bladder. The operation was performed, in the presence of Sir. Richard Dobson, Mr. Finch, and Mr. Lawson: it was difficult, on account of the great enlargement of the body and third lobe of the gland; and tedious, from the number of stones, which were found to amount to twenty-seven. His convalescence was retarded by one or two small

calculi passing by the wound; and by an abscess of the prostate gland, that burst into the rectum. The symptoms of irritation caused by this subsided; and when I heard of him, he was free from stone symptoms, and was in the enjoyment of good health."

Case 12. "Mr. C—, from Yorkshire, aged 60, came to town, for the purpose of placing himself under the same lithotritist's hands, for the operation of lithotrity. His bladder was so irritable, that water was with difficulty injected into it. After trying to allay the irritable state of the bladder for six weeks, the operator told him that his was not a case for lithotrity. I was requested to see him. I found him with an exquisitely sensitive bladder, affected with a bloody catarrh; his pulse 120; skin hot; and desire to void urine continual. The operation of lithotomy appeared to promise no success, especially as he had lost a great deal of flesh during his visit to town. I endeavoured to allay the irritation caused by the previous introduction of instruments, and succeeded to a certain extent. On sounding him, I discovered a large stone, and a large prostate gland. The operation was performed at the end of January, in the presence of Mr. Camplin and two young friends. It was difficult, on account of the stone being closely embraced by the bladder: it measured five inches and a half in its widest circumference. He was slow in recovering; the bladder still remaining irritable, and continuing to secrete a bloody mucus. The wound healed soundly, and his appetite and rest returned; and before he left town, the bladder had, in some degree, lost its extreme irritability, under the use of the *uva ursi*. I heard of him during the past Summer, and he was in the enjoyment of good health."

Such are the cases related by Mr. Key. So far as they go, they amount to this:—*that*, out of twelve cases of calculus in the bladder, nine were submitted to lithotrity, and three were handed over by the lithotritist to lithotomy; *that* of the nine operated

on by lithotrity, three only were cured, and six were totally unsuccessful; *that* of the unsuccessful cases, all proved fatal at no very remote period after the operation, which in several was performed on a small stone, and, *apparently* under favourable circumstances; *that*, in two of the unsuccessful cases, the fragments of the original calculus were found, after death, to have formed the nuclei of other calculi, although in each case, mark *that*, the patient was said and supposed to have been cured; and *that*, the three cases abandoned by lithotrity, and considered, therefore, as unfavourable, were all cured by lithotomy.

Mr. Key, after some remarks of little moment, observes that he wishes to shew that—

"As an exclusive operation for the removal of stone from the bladder, lithotrity cannot maintain that rank which it has been made to assume; and that if indiscriminately adopted, to the abandonment of lithotomy, it would be found inferior to the latter operation both in safety and success. The new operation should, on no account, be regarded in the light in which its exclusive advocates would place it—that is, as a substitute for the old; but as a valuable adjunct to it, and as furnishing the surgeon with an additional means of relieving a most alarming and painful disease. If this view be taken of it; it will, I think, be found to be one of the most useful inventions that modern surgery has added to her resources: for in many cases, if selected with judgment, it is not only equally effective with lithotomy, but more safe, and less painful in the performance."

Mr. Key goes on to state that the substantial benefits conferred by lithotrity, may be almost comprised in a few words, and in one sentiment. It has induced patients to apply with small stones, and it has furnished the means of detecting and of removing them when small. This is an opinion which has for some time been insisted on by the best-informed surgeons, and which is not new on the part of Mr. Key. As a proof of this we may cite some obser-

vations of our own published in October of last year.*

"When we sum up these cases forbidding, or, at the best, exceedingly unfavourable to, the operation of lithotritry, we shall probably find that they form a large proportion, if not the majority, of those which occur in hospitals. The lower class of persons, whose sensibilities are not usually acute, and who have to gain their livelihood by labour, seldom apply for medical advice until the complaint has existed for some time, and the calculus has either attained large dimensions, or the bladder or kidney is more or less diseased. We leave then the majority of cases for lithotomy, and we leave the *worst*. So far is lithotritry from being free from danger, that it abandons the bad cases to the knife. This is a truth that should be generally known. The direct advantages accruing from lithotritry have been greatly overrated, are, perhaps, overrated now, while, singularly enough, the indirect advantages are not sufficiently understood or prized.

Lithotritry has already done much for humanity, because in the first place it has led persons, with stone in the bladder, to apply earlier for medical advice, from the belief that the operation is not a severe one; in the second place, it has enabled us, by its improved modes of sounding, to detect small stones more readily than formerly; and, in the third place, it has given us the means of removing those stones, *while small*, with comparative facility and safety.

If lithotritry is inapplicable to large stones, it finds them out before they are large, and it removes them before they become so. This is the real value of the operation, the positive benefit it confers upon man. And no mean benefit. Who that had a small calculus in his bladder would be cut for it? What professional man would dream of suffering lithotomy in his own case? None, we are sure, aware of all the facts, and of the actual state of the question.

In the middle and the upper classes, where symptoms soon attract attention and means admit of the patient procuring good medical advice, small calculi are constantly discovered, and are now commonly removed by surgeons in this Metropolis. The bladder-forceps are introduced, after the bladder is injected with warm water, and the same instrument may sound the patient, detect the calculus, and either remove it whole, if it is small enough to be withdrawn through the urethra, or crush it by the screw or the hammer if it is not. How trivial, how simple, how safe is the operation, when weighed against lithotomy. When once the public grow well aware of the advantage of attending to the symptoms of stone, and of the benefit resulting from early medical attendance, we may anticipate that the operation of lithotomy, as well as lithotritry, under unfavourable circumstances, will be in a great measure superseded."

Mr. Key proceeds to institute a comparison between lithotomy and lithotritry. He adopts the following method. First, he points out the peculiar dangers of lithotomy—secondly, the circumstances that render lithotritry practicable—thirdly, the method of performing it—and, fourthly, the dangers attending it. It must be owned that this is not the most exact method of comparison, supposing a strict comparison to be admissible. But we will follow Mr. Key.

Dangers of Lithotomy.

We are not sure that we need dwell very long on these. They are tolerably notorious.

1. Mr. Key observes, which has repeatedly been done, that children bear lithotomy well. The records of all hospitals shew that. But we are not sure of the correctness of the observation that follows the statement of this fact.

"Though these young subjects are happily not liable to infiltration of urine into the cellular membrane, or to peritonitis, they are exposed to another source of danger, from sudden prostration, under which their powers will sometimes sink. This depression oc-

* Lithotritry and Lithotomy—Med. Chir. Rev. p. 462—3. Oct. 1836.

curs in those children whose parents accustom them, even at their tender age, to the pernicious habit of dram-drinking; a custom partly arising from the erroneous idea, that gin, by increasing the urinary secretion, tends to allay the irritation produced by the stone. Such children, when brought into the hospital, being subjected to the lowering effects of a milder and restricted diet, and to the action of brisk purgative medicines, are rendered irritable and susceptible, and can ill bear an operation that exhausts their energy, and is attended with some loss of blood. A small dose of syrup of poppies, with a tea-spoonfull of gin, or whatever liquor they may have been accustomed to soon restores the tone of the nerves and the vigour of the circulating system."

There is some vagueness in the expression that children are not "liable" to "infiltration of urine into the cellular membrane or to peritonitis." They are not so liable to these affections as adults are, but certainly they are occasionally attacked by them. We have seen several children, under eight years of age, die from suppuration in the cellular membrane of the pelvis and from low cellular inflammation, extending more or less to the peritoneum. The proportion of children who die after lithotomy, compared with that of adults who die after the operation, is a small one—but of those children who do die, our own observation would lead us to say that the majority are cut off by cellular inflammation.

2. *Hæmorrhage.*

A. This is seldom, for obvious reasons, considerable in the child; but we quite agree with Mr. Key, that, in the adult, "it is not ingenuous for lithotomists to deny the occurrence, or the danger of hæmorrhage."

"There are several sources that furnish the hæmorrhage; but in all cases, the bleeding comes most freely from the upper angle of the wound. The higher therefore the incision is carried, the greater, *cæteris paribus*, is the probability of bleeding. The pudic trunk itself is, I apprehend, rarely wounded. The artery of the bulb, and the super-

ficial perineal branch often bleed profusely, especially the former."

This is now generally admitted, and in the normal distribution of the vessels, it is the artery of the bulb rather than the pudic trunk, which bleeds, and which is expected to bleed.

B. But, occasionally, there are irregular arterial distributions, an instance of which occurred to the late Mr. Shaw, and is probably familiar to many of our readers.

C. But Mr. Key does not notice the most frequent source of *fatal* hæmorrhage. We allude to bleeding from the vesical and prostatic venous plexus in old persons. This it is, which is much more commonly mortal than arterial hæmorrhage, and there are few lithotomists who have not lost a patient by it.

D. But, perhaps the sort of hæmorrhage which, in practice, is productive of most mischief, is not that which is dangerous in its immediate consequences.

"The arteries are not large enough to afford a hæmorrhage sufficiently rapid to induce fatal syncope; but the draining sometimes continues for hours; either backwards, into the bladder; or slowly, by the external wound; gradually exhausting the patient, and incapacitating him for the struggle which he may have to undergo with visceral disease or inflammation. It is this secondary effect that constitutes the chief danger of bleeding after lithotomy and usually takes place in patients who have slight enlargement of the heart and a large arterial system. The pulse is found to be full and large even when the patient appears exhausted by the loss of blood: the lungs become gorged and, under the depressed state of the nervous energy, become embarrassed in their circulation. The heart, thus encumbered by the difficult pulmonary circulation, relieves itself by serous effusion into the pericardium, and death speedily ensues. If inflammation come on, either in the peritoneum or the vesical cellular tissue, the prostrated powers of the patient disable him from setting up a barrier to the mischief by a salutary adhesive process: in the lat-

ter case, the action assumes the suppurative form, and cellular abscess is the fatal consequence; and in the former, a slight extension of the peritonitis, producing opaque serous effusion, is sufficient to induce fatal prostration."

We were not aware of the peculiar tendency to dropsy of the *pericardium* as a consequence of hæmorrhage after lithotomy, nor indeed of hæmorrhage at all. Dropsical effusions are a familiar effect of impeded transmission of blood through the lungs, but the particular tendency of such effusions to occur in the pericardium is a fact which is comparatively novel.

3. *Infiltration of Urine into the Cellular Membrane.*

A dangerous consequence of lithotomy on which we need not dwell.

4. *Injury to the Neck of the Bladder and Prostate.*

Mr. Key's observations on this head are sensible, and we make no apology for extracting them in their original form.

"If we may judge from experience, the prostate gland would appear to sustain without inconvenience the effect of laceration; and this the experienced lithotomist bears in mind, in the act of extracting the stone. But contusion is most disastrous in its effects: it appears to cause sloughing, and diffuse inflammation of a destructive character in the neighbouring structures. In making the incision, and in extracting the stone, the object of the operator should be, to make a sufficient aperture to allow the stone to pass without bruising the gland; and not to carry the knife too far laterally, so as to divide the deep perineal fascia, and thus expose the cellular basin of the pelvis. The knife, if used incautiously, exposes the patient to this danger. If the prostate be large, and the stone of considerable size, a large aperture is required; and if the substance of the gland be indurated, the lips of the incision do not yield. To obviate these inconveniences, the surgeon carries the knife more freely through the prostate and thus adds to the risk of opening

the deep fascia that of hæmorrhage from the arteries of the gland. Under these circumstances, I always look to the assistance which the blunt gorget affords, as obviating both the difficulties, without inflicting an injury of a serious kind upon the gland. This instrument in the hands of the late Mr. Martineau, has had its merits fully tried: and its success is sufficient answer to any objection that can be urged against it. His object, in this part of the operation, was three-fold—to make a small incision in the gland with the knife; to enlarge the incision with the blade of the blunt gorget; and to take time in drawing the stone from the bladder. In so conducting the operation, the gland is not bruised, but torn: the slow introduction of the blunt gorget separates the fibres of the gland, and enlarges the incision as far as the deep fascia, without dividing it; for the fascia yields, and stretches, as the gorget enters the bladder. Sudden violence, in the act of introducing the gorget, is nearly as much to be deprecated as the violent extraction of the stone. The kind of violence which the blunt gorget, properly employed, inflicts, is well borne by the gland, and symptoms of high inflammation are rare, after such an operation.

The extraction of the stone is attended with more hazard to the gland. A nervous or a violent operator, feeling some resistance to his efforts, redoubles them, until he finds the stone obeying the force that he employs. If the opening in the gland be made with a cutting instrument alone, and be small, the stone is brought with difficulty into the incision, as the lips of the wound do not open. Additional force is then employed; and the operator, in ignorance of what he is doing, drags the gland before the stone, separates it from its attachment to the deep fascia, and brings it nearly to the external aperture before his efforts succeed. The consequence of such an injudicious proceeding is, to bruise the gland, to cause it to slough, and to render infiltration of urine almost inevitable, by the laceration of the deep prostatic connexions. The danger is, in part, prevented by

the use of a broad blunt gorget, which enables the broad end of a large stone to enter the incision; and renders it obedient to the gentle but continued force of the surgeon. In this step of the operation, time must be given for the parts that embrace the stone to dilate: the muscular stricture at the neck of the bladder, the firm substance of the prostate gland, and the deep fascia, will each stretch, and yield to the sustained efforts of a firm but gentle hand. In cases of enlarged and hard prostate, I have occasionally opened the incision while passing the forceps through the prostate, by separating the blades in a vertical direction: this, however, should be done without violence.

The gland is sometimes injured in withdrawing the stone, by the forceps embracing a portion of it, and tearing it away from the body. This accident happens when the central portion of the gland, or, as it is termed, the third lobe, is enlarged, and presents a narrow ridge at the entrance of the bladder. The forceps, where the blades diverge, close on this projection, as they embrace the stone; and the operator is unaware of it, until a piece of the gland is brought away in the blades. It may be avoided, by passing the finger below the forceps, and disengaging the gland from the forceps after the stone is seized. In my operations, I always pass the left fore-finger along the staff, after the knife is withdrawn; and reconnoitre the size of the incision, the texture and form of the gland, and situation of the stone. If the finger feels a projecting portion of gland that rises between the blades of the forceps as they are opened laterally, care should be taken to prevent it being entangled, by depressing it as the stone is brought forward. As soon as the stone enters the incision, the danger is past. I do not, however, wish to magnify the extent of this danger; for, in truth, it is less than might be expected. The injured portion is brought away, and not left to slough; and the surface from which it is brought is a lacerated wound, without contusion. In one case, that of an elderly gentleman, it

happened to myself in operating; but the patient, after suffering for a few days with irritative fever, ultimately did well: and I have observed, in the few cases that have occurred in the operations of other surgeons, that a slight degree only of fever, with fetid urine, has been the consequence, and in a few days has passed away. The neck of the bladder becomes slightly inflamed; but the incision prevents the ordinary severe effects of cystitis, by allowing the urine to drain away—an advantage that lithotripsy does not possess.

The body of the prostate may receive injury from being grasped in the forceps, by the operator expanding the blades before they are fairly in the bladder. One blade slips beneath the lobe, while the other enters the bladder; and the operator, on closing them, thinking that they embrace the stone, uses considerable force in his attempt to extract it. The contusion and pressure which the gland undergoes are sufficient to induce inflammation, and, probably, some of its worst consequences."

5. Peritonitis.

On this we need say no more than that, frequent as it is, in some degree or other, both its frequency and its degree are probably exaggerated. The most obvious cause, and in all likelihood, the true one, is extension of inflammatory action by the cellular tissue to the peritoneum.

If proper care is used, fragments need seldom, if ever, be left in the bladder after the operation of lithotomy. But if any *are* left, they usually come away by the fourth day, when the tumefaction occasioned by the incision has subsided.

Coagula often collect in the bladder, through the oozing from the prostatic vessels; but occasion sufficient irritation to induce the bladder to expel them. The patient may be rendered very uneasy after the operation, by a sense of distention in the region of the bladder, and of bearing down in the perineum; which continues until the repeated efforts of the bladder expel some small masses of coagula: or if

the distress be great soon after the patient is put to bed, and continues towards the evening, it is often found to arise from coagula obstructing the flow of urine; and the gentle introduction of the finger along the wound is followed by a copious discharge of urine mixed with coagula.

7. *Circumscribed abscess in the Pelvis.*

Mr. Key makes no mention of this consequence of lithotomy. We have seen two or three patients die of it.

8. *Wound of the Rectum.*

This occasionally happens, but is seldom of much consequence, the wound, in most instances, gradually healing.

9. *Fistula in Perinaeo.*

Mr. Key has not seen this after the extraction of a vesical calculus. But it sometimes follows the removal of prostatic calculi.

"In a gentleman" says Mr. Key, "verging upon eighty years of age, whom I cut about three years since, an abscess formed in the prostate gland, and burst into the rectum. Benefit, rather than inconvenience, followed this; for the prostate, being very much enlarged, had obstructed the free escape of urine from the bladder, and partial retention often occurred: the aperture into the rectum remedied the difficulty, by allowing the bladder to empty itself more completely; and was otherwise of little inconvenience to him."

10. *Impotence.*

Mr. Key has known this happen in one instance. Other cases of the sort have been reported, and it is singular that it is not a more frequent result of the operation.

11. *Incontinence of Urine.*

This is rare in the adult. In the young subject, partial incontinence will sometimes occur, if the patient is allowed to leave his bed too soon after the operation, before the neck of the bladder is firmly healed, and the sphincter has recovered its tone. Instances, therefore, are met with, of young boys, who, if they retain their water incon-

veniently long, find it dribble away as they move about. In bed, the urine is perfectly retained. When they arrive at the age of puberty, the power of retaining it becomes increased.

12. *Vesical Phlebitis and the Secondary Inflammations.*

Mr. Key takes no notice of these affections. They may occur conjointly, or separately. Many fatal cases have been at different times reported, and we have ourselves seen two.

Such is the list, a formidable one on paper, no slight one in practice, of the dangers that wait upon lithotomy.— Though that operation is much more successful in the hands of English surgeons, than the contemplation of the risks which patients run might induce us to suppose, yet candour must admit that a safer substitute for this operation would be a boon to humanity.

LITHOTRITY.

Lithotrity was proposed as such a substitute, its claims were specious, its advocates were confident, perhaps, not quite ingenuous, and can we wonder that men caught at what seemed a blessing, unalloyed by anything of evil? As usual, there were two parties in the profession. One, sanguine and enthusiastic, was charmed with the novelty and deluded by the bold promise of lithotrity. With that party all was *coulour de rose*, and whoever did not think exactly as it thought, whoever did not instantly abandon the old method and adopt the new, was either a bigot or a fool. This party in science is not a small one, because it comprises the worst-informed and the least experienced. Its humour and its violence have frequently reminded us of the picture that has been drawn by a master's hand, of a similar faction in politics.—

A headstrong, moody, murmuring race,
As ever tried the extent and stretch of grace;
God's pampered people, whom, debauched
with ease,
No king can govern, nor no God can please.

Another party, which has assumed the office of drag on the scientific wheel,

and has enjoyed the honour of resisting to the uttermost and to the last the improvements in modern medicine, denounced lithotripsy as absurd and mischievous, and proved to demonstration that that could not possibly be done, which somehow or other, was done daily.* But this party had been broken by former defeats, and its voice was soon lost amidst the shouts of its opponents.

More moderate men, the more moderate because the more experienced, for experience leads to moderation in medicine, were struck with the force of much that the lithotritists advanced, while they could not avoid seeing many strong objections to their methods. The pretension to the absence of all danger from the operation was contrary to reason, and was soon contradicted by facts.† The subsequent modifications of the process have established the soundness of many of the exceptions that were taken by well informed surgeons to lithotripsy, and the progress of time, so favourable in every case to truth, has brought to light facts which may serve as a basis for a just appreciation of the new operation.

But this is too wide a question for us at present. Mr. Key cannot fairly be said to have met it, for the remainder of his observations refer rather to the mode of performing the operation, and consist of miscellaneous hints. We shall endeavour to pick out what seems to us to be possessed of novelty, or to be of value on other accounts.

1. *Sounding the Bladder.*

Mr. Key's remarks on this head are judicious. He rightly observes that lithotripsy has done much to improve our method of sounding, and that Heur-

teloup's bed is a material assistance. A small quantity of water, generally about three ounces, should be injected into the bladder, a much larger or a much smaller quantity being alike disadvantageous. In order to make the examination more satisfactory, the stone should be dislodged from behind the prostate, by suddenly inclining the patient backward, and altering the axis of the bladder: this is effected by the couch or chair.

Though touch will usually decide the presence of a calculus, the surgeon should not be satisfied until he has heard it.

"I have found sometimes, when the friction of the sound over the foreign substance has been equivocal, that the injection of oil into the bladder has removed the deceptive sensation which the contact of metal with a fungoid mass surrounded by water will produce. An instance occurred not long since, of a bleeding fungus being mistaken for a calculus. The patient was sounded more than once, by an experienced surgeon, and pronounced to have stone: he was placed under the care of a lithotritist, who fixed a day for the operation. The patient, however, became so ill, before the day arrived, that it was necessary to defer the operation. On his death, which took place in a few days afterwards, no stone was discovered in the bladder; but a bleeding fungus, of considerable size, was found attached to the mucous membrane.—The occurrence of a cyst enveloping the stone in the bladder is often held out as likely to mislead the surgeon, and to prevent that satisfactory evidence being obtained that a careful operator would wish to have before proceeding to the operation. The occasional presence of a cyst around a calculus cannot be denied. In a case on which Mr. W. Wickham operated, a something was removed with the stone that resembled a cyst formed by adhesive matter; it was so thin, as not to prevent a distinct sensation being communicated by the sound. Such cases are very rare. The stone may also be lodged in a sac formed by a protrusion of the mucous coat between the muscular fibres of the

* Everybody knows how ingeniously it was contended, that a straight instrument could not work in the bladder, at the very time that many people were working it.

† We believe we took a fair estimate of lithotripsy at an early period; and we were the first, in this country, to publish a series of fatal cases.

bladder. Such a variation in the position of the stone is seen sometimes. We have a specimen of it in the Museum; but, like the former, it is a very unusual variety in the situation of a vesical calculus. I have never met with such accidents, either in hospital or private practice; nor have I witnessed them in that of my colleagues."

The steel sound and the silver catheter are the two instruments used for sounding. Each has its advantages.

The best form of catheter is Heurteloup's. The sensation conveyed by the catheter is less distinct than that transmitted by the sound. That is, of course, a disadvantage.

"Another disadvantage of the catheter is, the alteration that it produces in the course of the canal, by raising the prostate gland. This will be understood by contrasting the straight tube of the catheter with the curve of the sound. When the former is in the bladder, the part of it that lies in the prostatic portion of the urethra is a straight line; and when the hand is depressed, the prostatic portion is necessarily raised, and the *cul de sac* of the bladder anterior to the ureters is deepened. A small stone, or fragments, may then escape the touch of the catheter, unless they can be thrown backward into the base of the bladder. The common steel sound is free from this disadvantage: when the beak is in the bladder, its curved portion is in the prostate gland, and causes no distortion in that part of the canal; so that, as it enters the bladder, a small stone may be struck, over which the silver catheter would pass without touching it. If the bladder contains about an ounce of urine, which is sufficient to allow the sound to enter freely, the stone, however small, rarely eludes it. In the examination of persons suspected to be afflicted with calculus, I usually first employ the catheter, after injecting two or three ounces of warm water, and reclining the chair: and if I do not strike a stone, or if I meet with a something, of the nature of which the silver tube fails accurately to inform me, I then allow some of the water to escape, and introduce a common steel instrument."

2. *Subsequent Steps of the Operation.*

For these we may refer to Mr. Key's paper, or to the works upon lithotritry. M. Key has modified in a slight degree Baron Heurteloup's "lit rectangle." He has had it so constructed as readily to be taken to pieces, for the convenience of travelling. It is made of beech, with a bedding of common ticking, which can be rendered more easy to the patient by a pillow behind his back: the pelvis sinks sufficiently to bring the urethra nearly on a level with the vice; which thus requires not to be so much raised, and is thereby rendered steadier. The fore legs are about an inch and a half longer than the hind ones, in order to give a more convenient direction to the percussor when fixed in the vice, and also to give a greater inclination backward to the pelvis.

Mr. Key has also modified the lithotritic instrument. An objection to lithotritry is the necessity for frequent sittings, in consequence of the fragments escaping from the instrument, and requiring to be severally broken up. To prevent the escape of those fragments, when too large to pass through the urethra, has been Mr. Key's object.

"Accident led me to contemplate the possibility of adapting a net-work, for the purpose not only of catching the fragments, but also of throwing them between the teeth of the percussor, in the act of withdrawing the male blade. Mr. Laundy carried into effect the idea that I had suggested to him, and proved that an instrument might be so constructed as to effect both these desirable ends.

The percussor that seemed to be the best for my purpose was that made by Weiss: the great power that it possesses over a calculus, and its property of clearing itself, were two advantages that no other lithotrite, that I had seen, possessed; and, at my request, he constructed a lithotrite with an addition of two branches, projecting by means of wires concealed in a groove at the upper part of the female blade. *Fig. 1* represents Weiss's lithotrite, with the branches added to it. They move by means of a handle attached on each side of the instrument. When the in-

strument is closed, the handles are fixed by a screw and eye to the upper part of the male blade; the branches are concealed when the blades are closed; but are seen lying close to the sides of the male blade when the latter is withdrawn. The branches are pierced with small holes, for the purpose of fixing the net, as is also the posterior part of the male blade itself, as is shewn in *Fig 2* one end of the net being fixed to the blade, and the other to the branch, when the latter is projected, it expands the net on each side of the calculus. The net occupies so small a space, that when gathered up, it lies close to the side of the blade, which is slightly excavated to receive it, and does not interfere with the blade closing perfectly. See *Fig. 3*.

When the instrument is closed, ready to be introduced into the urethra, the blades appear in no way to differ from those of the ordinary lithotrite, except at the back of the female blade; in which I have had introduced small bars so as to intercept large fragments, and prevent them from escaping before they are sufficiently triturated: these are seen at *Fig 4*."

This description cannot be thoroughly understood without reference to the plate which accompanies it. But those who feel anxious on the subject will probably procure the instrument itself. It essentially consists of two slender lateral branches, supporting a net.—Whether the instrument will answer must be left to experience to decide. But some plausible objections may be brought against it. Mr. Key has employed it in four cases; in two or three, he has been obliged to lay it aside and use the common lithotrite.

Leaving the mode of performing the operation, we will touch on two or three circumstances which affect it, and which increase or diminish the patient's chances of recovery.

A. Size of the Calculus.

Mr. Key observes, that the size of the calculus forms of itself no objection to lithotrity. Now this, as an unconditional proposition, is opposed both by theory and practice. Mr. Key, him-

self, is obliged to modify it, for he observes that "he knows of no limits to the size of a calculus removable by lithotrity, but the power of the lithotrite." But that itself forms the limitation, and hedges in the proposition, which would otherwise be so broad an one. In surgery, it is not absolute possibility which determines the performance of operations, but a calculation of probabilities. A large stone may be broken by the lithotrite many times without an accident, but then the lithotrite itself may give way, and no prudent surgeon would incur that hazard. It is no answer, to urge that Mr. Costello has broken up a calculus weighing several ounces. "One swallow doesn't make a summer," and a general proposition cannot be established by a particular case or two. It is well known that lithotritists, and those the most able and experienced, will not generally meddle with large stones, a pretty sure proof that to do so would be dangerous.

Mr. Key justly observes, too that there are circumstances, more or less attendant on large calculi, which should be carefully weighed by the surgeon.

"As the stone cannot be entirely crushed at one sitting, a patient with an irritable or an unsound bladder becomes involved in most serious danger by the operation being hastily adopted. A large stone broken up into many irregular fragments, all crowded by the contractions of the bladder against the irritable and inflamed cervix, causes excessive efforts to void the urine, and even inflammation of the mucous surface. Under such circumstances, the repetition of the operation becomes impossible, or highly dangerous; and the patient has to struggle through the stages of inflammation, with a bladder irritated by the lesser fragments. But if the bladder be free from disease, and not very irritable, it will bear the number of sittings required to break up a large stone, without much suffering to the patient, and with very little danger."

When we take into consideration, *that*, when the stone is large, the bladder is frequently not healthy—*that*, the

operation is rendered proportionately more troublesome and more tedious—*that*, repeated operations are required—*that*, such operations and the presence of fragments are very likely to produce inflammation of the bladder, even if it did not previously exist—and *that*, all these circumstances make the operation both a painful and a dangerous one,—we may readily comprehend the general reluctance on the part of lithotritists to engage with large stones and the general preference, which in such cases, is, and should be given, to lithotomy.

B *Lithotrity more or less inapplicable to early and advanced life.*

This is a trite axiom. It is comparatively inapplicable to youth, on account of the small size of the urethra—to old age, on account of the usual presence of enlargement of the prostate. But if in youth, there should be a very capacious urethra, or if in old age, the prostate be small, the principal objections to lithotrity in those cases would be done away with.

C. *State of the bladder to be considered.*

“Three conditions of this organ are necessary; and these must be ascertained, by preliminary observations and trials, before the operation is determined on:—1st, It must be capable of holding a sufficient quantity of water to facilitate the working of the percussor. 2dly, It must be free from that extreme irritability that often attends the latter stages of calculous disorders; and 3dly, Not prone to inflammation, from slight excitement. In healthy persons, the bladder, even under the irritation of a stone, will allow several ounces of water to be injected into its cavity, without sustaining more than a slight inclination to eject it. Its retentive powers are not impaired in the early stages of the disorder: patients will go for many hours without any desire to empty the bladder, the only early symptom being a smarting, when the bladder contracts on the calculus. It is therefore rare to meet with any difficulty in injecting water sufficient for the purpose of giving space for the opera-

tion, among those who apply for advice soon after the symptoms have begun to declare themselves.

Even when, from the long-continued presence of the stone, the bladder becomes morbidly affected, and able to contain but three or four ounces of urine without an irresistible desire to expel it, much may be done by treatment, to assuage the irritation of the mucous membrane, and tranquillize the muscular excitability. When the stone has been long resident in the bladder, and has produced a change in the mucous membrane and a copious discharge of phosphatic mucus, signs of extreme irritability come on, and almost seem to forbid any expectation of lithotrity being practicable. The desire to void urine is renewed every two hours, or oftener: the urine not only deposits a large quantity of dark-coloured mucus but is cloudy, and loaded with small flakes of adhesive matter, the result of inflammation of the mucous lining; the pain in expelling the last few drops of mucus is intense. Such continued suffering at length affects the general health; and would seem, I say, to forbid the operation altogether. Frequently, however, will these formidable symptoms yield to a system of diet and medicine, and the patient by degrees be unexpectedly brought into a condition to bear the operation.”

Mr. Key remarks, what every surgeon has observed, that those who have irritable bladders, usually have some disturbance after moderate distention with water and examination by the catheter. This disturbance is commonly evinced or accompanied by a rigor. Unless there is persistent pyrexia, this is not to be considered as alarming. Every body knows, that the same thing frequently occurs after the introduction of bougies.

D. *Morbid State of the Cervix Vesicæ*

“One principal source of irritability of the bladder is a morbid condition of the cervix or of the prostate gland.—The structure about the neck of the bladder, above all others deserves the especial attention of the lithotritist; as it is here that he will meet with the

most difficulties, and will also find the chief source of danger. The extreme susceptibility of this part of the bladder is not unfrequently evinced in severe rigor, and inflammation following the introduction of a sound in patients who complain of dysuria connected with an enlarged prostate gland. These persons, often highly disposed to inflammation, have a severe attack, brought on by the casual introduction of an instrument for the purpose of ascertaining the cause of their ailments. When the morbid condition of the gland is combined with calculus, the risk of inflammation, and the danger of its consequences become greatly increased; and the hasty performance of lithotrity in persons not prepared for the operation has been known to induce a fatal cystitis. Too much caution cannot be used in ascertaining the exact condition of the neck of the bladder, by occasional examination with the sound; not only with the view of learning the physical state of the gland, but also of measuring the degree of susceptibility. The irritability of the cervix, instead of being increased by the catheter, is often considerably diminished by the careful and occasional introduction of a large instrument, more especially if assisted by regulated diet and alkaline saline medicines; whereas, if the operation be performed without such preparation, on a person enjoying high health, the combined efforts of the sudden distention of the cervix and prostate gland, the reduction of a hard stone into angular masses, that are propelled, at each time of voiding urine, into the prostatic part of the canal, and the natural susceptibility of the bladder, bring on a degree of inflammation that is with difficulty arrested."

E. Calculi in the Kidney.

"The presence of calculi in the kidney," says Mr. Key, "cannot always be ascertained before the operation is performed; nor does this seem to be important." We subscribe to the truth of the first half of the paragraph, but not to that of the second. We believe it is a matter of considerable importance, whether there be or be not calculi in

the kidney. The affections of the kidney, both after lithotrity and lithotomy, are much to be dreaded, and are too often fatal. To the surgeon, the condition of the kidney, in every point of view, must be an object of anxious concern.

This article has run out to a considerable length. In the original, it occupies 56 pages. It is, in a great degree, addressed to students, and much of it must be familiar to surgeons of information or experience. We have omitted many details, and selected those points which were of highest interest for notice here.

The paper cannot be considered a comparison between lithotrity and lithotomy. Such a comparison is difficult in some respects, impossible in others, for every day's experience is shewing forcibly that the two operations are not adapted to the same cases. Nor do we think that the paper presents a complete account of the bad consequences of lithotrity, nor of the indications for either operation. But there are many practical and useful hints in it, and the subject is one which, at present, engrosses, and deserves to engross, the attention of the surgical world, and which neither is, nor for some time to come will be, exhausted.

II. TWO CASES OF POISONING BY ARSENIOUS ACID. BY MR. ALFRED S. TAYLOR.

Appended to these cases, which are, themselves interesting, are some good remarks on the solubility of arsenious acid in water and in other menstria. We have not space for the latter observations, and must confine ourselves to a notice of the cases, and to their chief bearings on forensic medicine.

Case 1. A girl, aged 25, took arsenic, probably about forty grains, about four o'clock in the afternoon of the 17th of May, 1836. She became very ill in about an hour afterwards, and had then pain in the stomach. About seven hours after taking the poison, when admitted, there was great thirst, but

the pain in the stomach was not great, nor increased by pressure. The thirst continued unabated till her death, which took place at a quarter past seven in the morning, a little more than fifteen hours after having taken the poison. She was sensible until just before her death.

Dissection. The bronchial lining membrane was rather congested and dark.

On opening the abdomen, and exposing the cavity of the stomach, this organ was found to contain a dirty yellowish-coloured liquid, somewhat tenacious, and holding, diffused through it, opaque grains of a white matter, evidently arsenic. Particles of the same substance, enveloped in mucous, were found scattered over the surface of the mucous membrane, in different parts. The appearances presented by the stomach, when seen and examined shortly after its removal, were as follows.* The mucous membrane was very rugose, especially at the larger extremity and inferior portion. The edges of the rugæ were, for the most part, vascular; whilst, in the intervening depressions, there were here and there dark coloured patches of blood, extravasated beneath the mucous membrane. There was great vascularity of the membrane in the upper part of the organ; and there were three distinct lines, of a vermilion redness (the colour having become a little more intense by exposure), running parallel to each other, for nearly the whole of the interspace between the pyloric and the cardiac orifices. These lines terminated in a well-defined margin of redness, situated at the junction of the cardia with the œsophagus.

The most striking morbid changes, however, in the stomach existed near the larger curvature, towards the pyloric extremity. Here there was a large prominent oval patch of thickened membrane, about three inches in length, and

two inches in breadth. This patch was, in the first instance, covered with a dense layer of opaque mucus, with difficulty separable, containing small granules of arsenic diffused in a white pasty mass. When the surface was washed, it was seen to be of a yellowish colour in the centre; and it was surrounded by a dark margin, as of extravasated blood. At this part, the coats of the stomach were at least three quarters of an inch in thickness. There was no trace of ulceration or corrosion in any part of the mucous membrane. The peritoneal coat was slightly injected.

In the report of the examination, it is stated that the small intestines contained a great quantity of viscid mucus, tinged with bile. The duodenum was but slightly vascular; but the jejunum was in a high state of inflammation, in circumscribed patches, these portions of the mucous membrane being covered with an easily separable layer of mucus. The lining membrane of the last twelve inches of the ileum, as well as that of the cæcum, was slightly inflamed. The rest of the intestinal canal, with the other organs of the abdomen, presented no abnormal appearances. From the condition of the uterus and its appendages, there was reason to suspect that impregnation had recently taken place.

Mr. Taylor points out as remarkable features in the case:—1, the general absence of pain; 2, the extreme thirst, a symptom on which he insists, as characteristic and valuable; 3, the presence of extreme thickening, and the absence of ulceration.

Case 2. A female, aged 22, was admitted at 9 p.m., Sept. 3, 1836, having taken, so it was reported, an ounce of arsenious acid, one hour previously. First, she was made to vomit freely, by various means, then she was seized with violent diarrhœa, then had extreme prostration, then grew comatose and was affected with cramps in the legs, and died seventeen hours after taking the poison.

Dissection 26 hours after death. The mucous membrane of the stomach was highly inflamed throughout, and was in

* A wax model of the stomach, representing very perfectly the morbid changes observed in it, has been made by Mr. Town. It is placed in the Museum, and numbered 2772.

many parts *ulcerated*. The rugæ of the membrane were not very numerous, but their summits were especially the seat of inflammation and ulceration. No *arsenic* was found in the stomach, nor were there any solid matters present.

The mucous membrane of the duodenum was much inflamed, and there were also considerable patches of inflammation and ulceration on that of the ileum. The mucous membrane of the colon was slightly injected, as well as that of the rectum; but there was no trace of poison to be discovered in the last-mentioned portion of the intestinal canal. The œsophagus was likewise inflamed, and the lining membrane of the larynx and trachea was highly injected. The uterus exhibited evidence of existing menstruation.

In this case there *were* ulcerations, there was *not* thirst, there was *no* trace of poison discoverable in the stomach or intestines, but *arsenic* was detected in the matters vomited.

For the rest of Mr. Taylor's paper we must refer our readers to the original reports. In our next number we may glance at the prominent features of it.

III. ON THE SAFETY-VALVE OF THE HEART.

Nor will our limits permit us to do more than mention an Essay, of 77 pages, by Mr. King, on the safety-valve function in the right ventricle of the human heart. In our next number we shall present an abstract of its leading facts, but anatomy and physiology have had their full share in the present.

IV. REPARATION OF FRACTURED BONES.

Eighteen pages and several plates are devoted by Mr. Bransby Cooper to this interesting and important subject. This memoir has been reviewed in another part of this number.*

* Review Department. Art. Pathological Anatomy.

V. CASES AND OBSERVATIONS ILLUSTRATIVE OF THE DIAGNOSIS OF TUMORS AT THE BASIS OF THE BRAIN, OR OF OTHER LESIONS OF THE BRAIN AND CORD.

All are disposed to attach value to whatever pathological remarks proceed from our able friend, Dr. Bright. We cannot then defer to a more remote opportunity the examination of this paper.

A. Tumors at the Basis Cranii.

Dr. Bright observes that in disease, as in other things, there must be a fixed relation between causes and effects.—This may not unreasonably be granted, but the disturbing circumstances are sometimes so numerous or so powerful, that it is difficult, if not impossible, accurately to appreciate them. Hence the mistakes in diagnosis, hence the caution of experienced practitioners, caution founded on the jockey principle, "once singed, twice shy!" The difficulties and the embarrassments attendant upon diagnosis are most keenly felt, for obvious reasons, when the nervous system is concerned. Should those difficulties be diminished, a material boon would be conferred on medicine, and no small thanks will be due to Dr. Bright if he assists in their reduction.

In each of the two succeeding cases, a tumor was found, just beneath the tentorium, in contact with, or actually attached to, the petrous portion of the temporal bone, and pressing aside the pons varolii.

Case 1. In Nov. 1831, Dr. Bright states, and we must use, for we cannot usefully abridge them, his own words, that he was sent for to Woolwich, to see an officer, a tall athletic man, aged 48, who, after being many years in active foreign service, had returned home in 1817. He married in 1825, and had a family. In 1826, he suffered severely from sciatica of the right hip, which he had injured some years before, by a fall from his horse. This was cured by carbonate of iron; and he afterwards enjoyed an excellent state of health, till the Autumn of 1829, when, being again

engaged in foreign service, he began to experience an attack of periodic pain over the left eye, exactly in the super-orbital notch. This pain used to return about dinner-time, daily; and was always put a stop to before he had half finished his meal. At this time he met with a very severe accident; and was taken up, stunned, and senseless. He was bled; and, after some hours, recovered; but his recollection was, for a day or two, so defective, that he frequently asked what service they were engaged in, and what they were doing; and it was with great difficulty these points could be explained to him. However, in a short time he was tolerably restored; though he never regained the state of health he had enjoyed before his fall, frequently complained of pains in his head, and of some weakness in his right leg.

About Christmas, he had a severe attack of bilious vomiting; after which, the pains in his head, and over the right eye, were worse, and more frequent; and he experienced, occasionally, a temporary loss of sight, coming over him like a cloud, and lasting for some minutes; then passing off, and not being followed by any remarkable increase of the headache. After some weeks of suffering, the intermittent pain over the left eye was completely removed in a single day, by taking three doses of sulphate of quinine in rapid succession, two or three hours before the expected diurnal attack; and it never afterwards returned. In June 1830 he had another attack of bilious vomiting, of great severity; which, however, passed off so quickly, that the following day he was able to resume all his duties; but shortly afterwards he discovered, one morning, that the sight of the left eye was completely gone. The sight of the right eye also became imperfect; the weakness of the right leg increased; and the left leg also began to lose power. In 1831, when he returned home, the sight of one eye was entirely lost; and with the other, it was only by great effort, and by changing the field of vision often, that he could discover the features of any one with whom he conversed. The hearing of the right ear

was tolerably perfect; but he had, for many years, lost the hearing of the left, from the shock of a gun firing. He likewise complained much of pain darting through his head; which was relieved by cupping, blistering, and tartar-emetic ointment.

Dr. B. first saw him on the 8th Nov. 1831. He was then sitting in his chair, perfectly unconscious of surrounding objects, nor was he aware of Dr. Bright's presence. When, after much trouble, by writing words on his hand, and by calling in his ear, and by other means, he was led to comprehend, he answered distinctly, and without hesitation, but in the high-raised and ill-modulated voice which is usually observed in deaf people. His intellect seemed unimpaired. He was able to stand; but, partly from the weakness of his lower extremities, and still more from the timidity arising from his blindness, he could not move without support; and when he attempted to walk, it was with a short, feeble, tottering step. He had no incontinence of urine, although that had occasionally appeared some weeks before: he had never passed his feces unconsciously, but once or twice there had scarcely been time to prevent an accident of that kind. His sleep was tranquil, and not too heavy; nor did he appear more drowsy than might be expected in a person deprived of sight and hearing. His appetite was good, and had sometimes been excessive.—There was some inequality in his power of hearing. At times he could catch sounds, but never distinctly, as to understand their meanings. About a week before Dr. B.'s visit, he had had a fit, with temporary insensibility and suffused countenance, but without convulsion.

In the course of November he partially recovered his hearing, being able once or twice to distinguish the drum or the bugle sounding, nay, even certain words. If made to hear what was said he comprehended it, and answered rightly. Dr. B. again saw him on the 29th. He had sometimes spoken of a very peculiar sensation in his head, attended with a sound as if grease had been thrown into the fire, making a

whizzing noise and then dying away, whilst at the same time a flash of light passed over his eyes. His sight had also been occasionally improved. He was strong on his legs. The pulse varied from 70 to 75. Light bitters with the volatile alkali, blisters, and a seton were the means employed.

After this the symptoms gradually increased, and the mental faculties grew weaker. Dr. B. saw him again on the 14th of November, 1832. He was then in bed, helpless, and much emaciated. His wife was feeding him with meat, finely minced, and mixed with potatoes: she was obliged to rouse him frequently, to make him take his food; and then he continued to open and close his teeth gently, till he fell asleep, while the meal still remained partly in his mouth. Taste appeared to be lost. He was quite unconscious, and usually in a kind of slumber, but, on some days, was more drowsy than on others. If conscious of the calls of nature, he gave no intimation that he was so. The pupils seemed quite motionless. He occasionally expressed severe headache, and a pain over the right eye.

He died on the 27th of December. He had sunk progressively, and sloughs formed on the sacrum before death.

Dissection. The scalp rather more bloodless than usual. The skull was hard and solid, and somewhat uneven in its thickness: on each side of the sagittal suture internally, but particularly on the left, it had small deep, irregular cavities, which had been filled with corresponding unusually-enlarged glandulæ Pacchioni, which seemed to have almost perforated the skull in some parts, so that only the external table remained. The dura mater was not very vascular; but the projection of the glandular bodies, on each side of the longitudinal sinus, was remarkable; so that, at first, they suggested the idea of small cerebriform fungous tumors. A small bony plate also, about half an inch in length, lay along the angle of the falx. The longitudinal sinus was quite natural. The dura mater adhered very firmly to the arachnoid, at those parts where the glands were so large; and

when it was removed, the arachnoid in the immediate neighbourhood was white and opaque. The arachnoid was not vascular, nor unnaturally adherent to the brain. There was no serum effused beneath it. The depth between the two hemispheres of the cerebrum was small, owing to a considerable elevation of the corpus callosum. The general substance of the brain was natural, but rather deficient in bloody points.

The roof of the ventricles was raised high by clear fluid, of which about four ounces were collected, both the posterior and the anterior portions of the ventricles being distended: but the accumulation appeared greatest in the anterior. A few large vessels, ramified on the internal surfaces of the ventricles, the corpora striata, and the optic thalami, seemed flattened; and the septum lucidum was much thicker and firmer than natural. The choroid plexus, on each side, was exsanguine, and contained several vesicles, from the size of a pin's head to that of a pea. The velum interpositum was also exsanguine.

In attempting to remove the brain from the basis of the skull, it was found that the anterior portion of the cerebellum, on the left side, degenerated into a tumor; and adhered so firmly, that it could not be detached without a scalpel, or employing considerable force, from the petrous portion of the temporal bone. The structure of this tumor was chiefly hard and unyielding, but in some parts softer; and the nervus trigeminus, or fifth nerve, was seen passing over it, flattened and broad; nor did the tumor simply adhere, but the bone had become carious, and pervaded by it, so that a softened cavity occupied a large portion of the petrous ridge, extending towards the sella turcica.

Case 2. N. Wells, aged 43, admitted into Guy's Hospital, October 22d, 1834.

In 1817, he received a wound from the bursting of a gun, by which his cheek bone was much injured, and which was followed by defective hearing in the left ear. No other ill con-

sequences followed until 18 months ago, when an offensive discharge took place from the left ear, which, after continuing for eight months, suddenly stopped about Christmas last. This was quickly followed by a pain across the forehead, and a sense of weight towards the back of the head. About four months ago, the vision of the left eye became imperfect; and in another month, the right eye was likewise affected.

At the time of his admission, the vision of both eyes had, for the last month been so defective, that he was unable to find his way in the street. During the last six weeks, he had been attacked, three or four times almost every day, with a convulsive agitation, chiefly affecting the left side; and he stated that his memory had become very imperfect respecting recent circumstances, but was more retentive of those of earlier date. His pulse was variable in strength and frequency, generally about 96.

He remained under Dr. Bright's care for nearly three months. The treatment consisted in calomel, leeches, counter-irritation, &c.; but it was of no service. The chief variations which took place, during the time he remained were the occasional recurrence of very severe headaches. He once or twice fell to the ground, in fits of giddiness; and was often unable to move, from what he called the heaviness of his head. He had occasional difficulty in passing his urine; and his bowels were costive. On the 13th of January, he left the hospital, being at that time totally blind; and never afterwards could distinguish light from darkness. He was quite deaf in the left ear, and the hearing of the right was at times much affected. He had then the perfect use of his limbs; and was in the habit of being led out for walks to a considerable distance. In this state he continued until the Summer of 1835, when he was suddenly attacked one day while walking, and fell insensible. He was attended by Mr. Griffith, a very intelligent surgeon, of Pimlico, who reports that after this;—

“He was hemiplegic on the right side, and the mouth was drawn to the

left. On the side affected, there was total loss of sensation. He recovered, in some degree, sensation, and the power of motion in the arm and leg; but the effort to use either was always accompanied with violent shaking. He could not stand without support. He at all times had the power of retaining and voiding his fæces and urine; the bowels were very torpid, requiring the daily use of full doses of aperient medicine to procure relief. He was subject to convulsive attacks: which came on sometimes three times, sometimes only once a day, and sometimes with an intermission of a day or two. His mind was at times childish, but his reason was not gone: his sense of taste was entirely destroyed: his hearing varied being sometimes very good, at others imperfect. Though I had not seen him for many months, he immediately recognised me by my voice. This was about two months before his death: he then articulated with much difficulty: he uttered his words suddenly, and after a prolonged effort.—His tongue was drawn forcibly to the roof of his mouth; and in the effort to speak, there was apparently great difficulty to depress the lower jaw: he frequently, however, gaped, and yawned to the full extent. It appeared that the muscles of the right side of the jaw had in a degree regained their power; for the distortion, when I saw him, was in no great degree: sensation, however, was entirely lost on this side of the face. He was a man of irritable temper, and passionate; but I did not observe that he was lately more so than usual. For a considerable time before his death, his arms were so paralyzed, that he could not feed himself; and for the last ten weeks, he could not leave his bed on account of the paralyzed state of his legs.”

He died on the 24th of October, 1836, and was examined by Mr. Griffith, in the presence of Mr. Dewsnap, Mr. Bowling, and Dr. Bright.

Dissection. On raising the calvaria, the dura mater appeared tense, but not remarkably vascular. Two or three large glandulæ Pacchioni stood out on its surface, by the side of the longitu-

dinal sinus, like little fungoid excrescences. When the dura mater was removed, the convolutions appeared flattened, from the profusion of fluid in the ventricles. The arachnoid was not very vascular, and there was no serous effusion.

On cutting into the substance of the brain, there were decided marks of congestion internally, and very distinct mottling. The corpus callosum was a little raised. The ventricles were distended to three times their natural size, by limpid fluid: the parietes and septum lucidum were firm: the foramen of Monro was large and open; one large vessel ran meandering along the under edge of the plexus choroides: the plexus itself was exsanguine.

The optic nerves were remarkably small, hard, and of a yellow colour, very different from the pure white by which they are usually distinguished. Their section was oval and compressed. The infundibulum was rather thicker, and of firmer consistence than natural.

Beneath the tentorium, a tumor, as large as a chesnut, was found on the left side, apparently attached by a peduncle to the petrous portion of the temporal bone, pushing aside the tuber annulare and the left hemisphere of the cerebellum, compressing the medulla oblongata, and pushing the fifth nerve upwards. This was found to be a firm dark tumor, the section of which was mottled with grumous blood; and it altogether bore the appearance of a fungoid growth, arising from the cancellated structure of the bone, but closely attached to the anterior portion of the cerebellum. The cancelli of the bone were soft, containing a puriform fluid. The tympanum was quite gone; and the ear contained some purulent matter.

In the lower part of the thorax, on the left side, was a circumscribed chronic empyema, of some standing.

The following observations by Dr. Bright are a good example of rational and supported generalization. It would be well, if all other observations in medicine were as rational and as supported.

"In both cases, we have individuals, little past the prime of life, dying in

consequence of tumors similarly situated within the skull; and, as they were both in other respects healthy, their symptoms had suffered no important complications from the co-existence of other diseases. In both, we have reason to connect the aggravation, and probably the existence of the disease with the exposures and accidents of military service. In both, the disease has been marked by its gradual progress; has first shewn itself by affections of the senses; and then slowly produced paralysis of motion or sensation in various parts, affecting the intellect little, until an advanced period of the disease, and probably not before it had led to extensive serous effusion into the ventricles.

The symptoms may be more specifically stated; as, an almost total loss of sight, total loss of hearing in one ear, and to a great extent in both, gradual paralysis of the extremities, slight and temporary affection of the sphincters, great diminution in the sense of taste, and a protracted death from sensorial oppression.

In these two cases, the left ear lost its sensibility not much less than twenty years before death; in the one, from the concussion of a cannon; in the other, after a severe wound in the face, and, doubtless, concussion of the temporal bone. What predisposing influence was exercised by the violence inflicted at that time, in either case it is impossible to say; but the circumstances should not be lost sight of, in the record of facts.

In both cases, the vision was impaired and destroyed, even before the hearing of the right ear; and it is not easy to account for this affection of the sight. I am sorry that I cannot find any observation after death on the condition of the optic nerves in the first case; and I therefore suppose that no remarkable change was observable in their appearance, or that it was passed over unobserved. In the second case a very obvious alteration presented itself, the nerves being small, hard, and dark-coloured, with a yellow tint, and, to all appearance, unfitted for the discharge of their natural function; but how this

change was induced, whether by pressure on any part of their course, or by interruption to the circulation through their substance, or by the irritation of contiguous parts, or in consequence of the serous effusion taking place in the ventricles, I do not pretend to say. The loss of vision, in both cases, leads us to suppose that it forms an important part of the consecutive history of the disease. The loss of sight in the left eye took place, in each, rather more than two years before death: and the loss of vision in the right eye followed very shortly after that in the left. The left ear, though its power was diminished to a very great extent in both cases, and was entirely lost in the first, retained its faculty of receiving impressions longer than either of the eyes.

The situation of the organic mischief, which might be said, in both cases, to encroach upon the mechanism of the right ear; and which made pressure on the auditory nerve of that side, afforded sufficient explanation of the destruction of its functions; but it is probably to the pressure communicated, through the pons Varolii, to the auditory nerve on the opposite side, as the tumours enlarged, that we may ascribe the slow diminution of sense in the left ear.

With regard to the sense of taste, it seems to have been impaired, in each case, as the disease gradually advanced; and in neither is any specific notice taken of it, till a few months before death. This is one of the most peculiar and interesting symptoms because one of the least-frequently noticed in cases of cerebral lesion; and I have no doubt that it arose from pressure made by the tumour on the fifth pair of nerves, which gives origin to the gustatory branch; for, in both cases, the fifth pair suffered the most obvious and decided displacement and compression. The obtuseness of the sense displayed itself in the total want of preference with respect to articles taken into the mouth, as observed in the first case, so that the most nauseous medicines were taken with the same indifference as the most grateful beverages; and,

in the second case, the inability to distinguish flavours was freely admitted."

B. *Lesions of the Spinal Cord.*

Dr. Bright relates four cases illustrative of the effects of pressure on the cord or of lesion of it.

CASE 1. *Paralysis of Motion from Pressure made by the Processus Dentatus.*

Samuel Elom, aged 52, admitted Aug. 13, 1832, having experienced stiffness of the neck for three months: and, after exposure to cold, two months before his admission, first suffered from loss of power in his left hand. Gradually, the right hand also became involved; then the left leg; and then the right leg; so that he now lay or sat in a perfectly helpless state, being only able to move very partially the right leg, which was occasionally raised in a convulsive manner, and the left leg also convulsed more slightly. The sensation was not impaired; the respiration was chiefly carried on by the diaphragm; and when he made a severe effort to cough, his legs were spasmodically drawn up. The muscles of the lower part of the face and the jaws appeared constrained. There was some difficulty in expelling the fæces and urine; but he was always able to retain them: He complained of some pain in the throat; and any motion of the head, so as to call either the atlas or the second vertebra into motion, produced considerable pain. A seton, the strict recumbent posture, and mild remedies were the means employed, with the object of procuring ankylosis. He suffered occasionally from violent fits of dyspnoea, which were relieved by stimulants.

In the middle of November, he began to recover the power of his right hand—towards the end of that month, he began to regain the use of the right foot—on the 8th of December, he could move the left leg a little—on the 11th of February, the ribs were considerably raised in inspiration—on the 28th, he had perceptible motion of the left hand. He continued to improve, and recover—

ed so far that he could walk about without assistance. But in February, 1834, he got out of the Hospital, drank freely, and had his neck forcibly moved. The consequence was a relapse, and death in April.

Examination after death shewed extensive disease in the superior cervical vertebræ; and an abscess had lately formed, burrowing along the anterior surface of their bodies.

CASE. 2. Paralysis, with much spasmodic Affection of the Lower Extremities, from Disease in the Dorsal Vertebra.

James Carr, aged 28, a bookseller's assistant, exposed much to wet. His complaint began after such an exposure. The affection of the lower extremities began with weakness of them.

When admitted, he could walk a few steps, with the assistance of a couple of chairs; but even this exertion caused great fatigue, and excessive perspiration. The spinous process of the fifth dorsal vertebra projected: the two next below were depressed and tender, and yielding upon pressure. Below these, sensation imperfect, the numbness extending, in front, nearly up to the umbilicus: abdominal muscles, tense; twitching of the legs, which are drawn up: bowels confined.

Fiat Setaceum reg. dorsi.

Decoct. Aloës co. 3vj. o. m.

Pil. Plum. gr. v. o. n.

During his stay in the Hospital, a period of seven months, he was sometimes better, sometimes worse; constantly tending, however, to an aggravation: sometimes sensation became more perfect; sometimes he could move the legs with greater facility; sometimes there was retention of urine; never incontinence; and he could always command the rectum. The urine was healthy. He left the Hospital at the commencement of January; and suffered severely from bronchitis, from which he is now recovering.

He has now complete loss of voluntary motion and sensation in the legs. The abdominal muscles have usually a board-like rigidity. Getting him out

of bed brings on repeated spasms, attended with pain; and a hurried and laborious respiration, with a jerking expiration. The legs, when he is in the recumbent posture, are generally extended and crossed. He has perfect command over his rectum, and readily passes his urine, which is healthy.

The next case presents nothing to detain us. Indeed the two preceding cannot be looked upon as evincing any very extraordinary features. But they are fair samples of the effects of lesion of the cord, in two distinct situations, and we have given them in an abridged form.

c. Lesions of the Brain.

As Dr Bright observes, the specific consequences of lesions of different portions of the brain are so little understood, that facts, noted carefully, are valuable.

CASE. 1. Difficulty of Articulation, and of connecting words with their corresponding ideas—Lesion in the Corpus Striatum.

Sarah Dodds, aged 30, admitted with hemiplegia of the right side, not affecting the face. Her articulation was exceedingly imperfect; but the most remarkable circumstance in her condition was, the total inability of connecting her words, when she could utter them with the ideas she wished to express, or the things to which she meant to refer.

Her complaint had commenced seven or eight months previously with dyspepsia, headache, singing in the ears, &c. In the middle of June, that apoplectic seizure occurred of which hemiplegia was the result, and it was a little more than a fortnight after the seizure that she was admitted. Under a gently tonic plan of treatment, she improved in motion and intelligence. But the peculiar difficulty of connecting words with things remained.

"When asked, for instance, the name of her hand, at which I pointed, she said, 'A pin;' but immediately signified her knowledge that this was not

the right word, though she could not tell what the right name was. On the 23d of September, at her own particular desire, she was permitted to have electricity, in the form of slight shocks and sparks, applied to the affected side, and her improvement seemed to be still further hastened under the use of this remedy; and, by the 1st of October, I noted her speech and articulation to be almost perfect, and that she connected words with ideas much better. She continued gradually to improve, and was able to walk, though with much effort, without a stick, along the whole ward. Her right hand, however, scarcely recovered at all, but remained stiff, with the fingers semi-flexed. Her powers varied; but in her best days she spoke like a foreigner, considering all her words, and not unfrequently mistaking them."

On the morning of the 24th of October, she had the premonitory symptoms of an apoplectic attack, which occurred that afternoon. She sank under it in three hours.

Dissection. Raising the calvaria and dura mater, the convolutions were seen compressed; and a fluid could at once be felt in the right hemisphere. Cutting into this hemisphere, it was found that a large portion of the cerebral matter was broken down and softened. There was an extensive yellow-ochery cell, shewing the situation of the injury which had attended the first apoplectic seizure; and this seemed to occupy the corpus striatum in all its extent, more particularly the posterior part, where it was surrounded by a thin fibrinous cyst, and contained a little brownish-yellow clot. The fatal attack seemed to have originated near the same part; to have burst, through softened brain, into the left lateral ventricle; completely destroyed the septum lucidum; filled the opposite ventricle; found its way into the third and fourth ventricle; and insinuated itself into the cerebellum; in the left hemisphere of which was a clot as large as a walnut, like black currant jelly; while the blood lay in layers between the plates of the cerebellum, and formed an extensive ecchymosis under the arachnoid. The

arteries were generally a little thickened, and spotted with atheromatous matter, evidently tending to ossification. The vertebral arteries were dilated.

Left ventricle of heart simply hypertrophied—mitral and aortic valves slightly thickened—ascending aorta rather dilated, and its coats thickened.

"In this case, says Dr. B., "the situation of the cerebral lesion left by the first attack was well defined; and, from its situation in the posterior part of the cerebral portion of the brain, it corresponded well with the opinion now pretty confidently received by many observers, that lesions of this portion are connected with a diminution of power in the arm; while its occupying chiefly the posterior part of the corpus striatum is further in accordance with an impression I have received from observation, and inculcated, with regard to the lesions which influence the articulation. As to the connexion of this particular lesion, and the peculiar mental difficulty we can only say, that as far as we can judge, the injury done to the corpus striatum corresponded, in point of time, with the commencement of the mental affection; and the mind was gradually regaining its power of associating words and ideas, while a process of gradual reparation was taking place in the lacerated brain."

CASE 2. Dr. Bright relates another case in which extreme difficulty of connecting words with ideas existed. The gentleman had once before had a fit—on this occasion had slight distortion of the mouth—but had recovered from the fit, and now recovered from this affection under depletion more or less active. We need not enter on the particulars of the case, as recovery prevented dissection, and the discovery of the lesion.

CASE 3. *Deranged Vision and Sense of Touch, with Lesion of the Optic Thalamus.*

In October, 1834, a gentleman, aged 57, had slight vertigo, fell, and for several weeks afterwards, had numbness of the whole of his left side.

Two months after, he had another

attack; which was followed by a very peculiar morbid sensation in his fingers, so that every thing he took hold of felt as if it were gelatinous or unctuous; and when he touched his bed-clothes, it was difficult to persuade him that arrow-root had not been spilt over them. This lasted for a short period, not many hours, and was succeeded by several optical delusions: he fancied he saw persons in the room, and that, as he walked the floor, he had to step over gates and stiles and railings, and his mode of stepping corresponded with this conviction; at the same time, he was capable of transacting business, so that the illusion appeared most probably to arise from some morbid impression of the optic nerve, and not from a mental process.

In the Autumn of 1835, he had dull pain over his ears, and indistinct hearing. In October, he suffered, for a few hours, an almost total loss of sight, and was, at the same time, unable to comprehend what was read to him; he always felt a tingling sensation in his left leg and thigh.

In the middle of the Summer of 1836, he was attacked with intense pain in the right hypochondrium, followed by inflammatory symptoms. He died in October, 1836.

Dissection. The sinuses much loaded: tunica arachnoides opaque, thickened, and raised by serous fluid, which flowed in considerable quantity on removing the brain, gravitating towards the basis cranii and vertebral canal.—Medullary structure unusually soft and vascular. On making a section of the posterior part of the right thalamus nervi optici (corpus geniculatum inferius), a chink or cell, half an inch in length, was detected on its surface, presenting a dusky yellow tinge, as though stained with bile; and there was increased softening of the surrounding medullary substance. Half an ounce of fluid in the right lateral ventricle: none in the left. The cerebral arteries were large and patulous, exhibiting occasional traces of atheromatous deposit.

The connexion between impaired and disordered vision and lesion in the

optic thalamus is obvious, and, in reference to our physiological and pathological opinions, satisfactory.

ROYAL NAVAL HOSPITAL, PLYMOUTH.

CASE OF GASTRO-ENTERITIS, AND PHLEBITIS PORTALIS. By Sir DAVID J. H. DICKSON, Knt. M.D.

Gentlemen,—The following outline of an extraordinary case of gastro-enteritis, and phlebitis of the portal system, I have no doubt will be deemed well worthy of record in your valuable Journal.

William Cleves, Royal Marine, æt. 26, was admitted into this hospital with symptoms of gastro-enteritis, on the 21st February, 1837. He had embarked on board the Scorpion Brig, just commissioned, on the 18th, and said that he was taken ill the same evening: but having been on leave, and drinking for several days previously, he did not apply for medical aid until the morning of the 21st, when he was blooded, and immediately sent to the hospital. He afterwards stated that he had been ill for four days; but except from his own account, which could not be relied on, and what he told the nurse, little of this man's history was known until after his decease; when I learned from one of his former shipmates, that he was considered an idle dissipated character; that he had been subjected to corporal punishment, in the early part of December, while serving in the Cornwallis, in the Tagus, for refusing knapsack drill, and to obey the orders of the serjeant; and that for this, and other acts of insubordination, afterwards, he had been ordered to walk about for a certain time daily, with his knapsack and accoutrements buckled on:—the pressure of which, I believe, as in other kinds of "tight-lacing," has been productive of injurious effects, on many occasions, by inducing or aggravating gastric, and thoracic, but especially cardiac disease. On the passage homewards this man appeared to be unwell occasionally, but

even by his messmates was believed to be malingering; and on the arrival of the ship, he was affected with the then epidemic catarrh: but I have no doubt that he concealed his illness, when disembarked at head-quarters, for the purpose of obtaining leave, and indulging in those intemperate habits to which he was so much addicted.

Upon admission, this patient, who was of a delicate nervous temperament, complained of pain, a sense of weight and heat, and great tenderness, on pressure, in the epigastric and abdominal regions; with a weak sharp pulse, tongue red, and furred in the centre; great anxiety, and depression, frequent vomiting, and other symptoms of gastro-enteritis. The treatment consisted of general and local depletion, fomentations, gentle aperients, and alteratives, enemata, effervescing and sedative medicines, to allay the gastric irritability, and blistering, &c. By these measures he appeared for a while to be relieved, and the disease assumed more of an hysterical, and intermittent character; so much so, that a trial was made of the sulphate of quinine; but it disagreed with him, and was immediately relinquished. He generally shed tears when spoken to; complained of pain in his limbs, which were often agitated by convulsive motions, and in every part of the body, in succession; and he had, also, frequent rigors, followed by the hot and sweating stages; but except during the exacerbations, when it was much quickened, the pulse was usually about 84, from which it ranged to 96, and 100 beats in a minute; but unequal in strength, and frequently intermitting.

It would be impossible, however, to give an intelligible account of the ever-varying symptoms—the patient, at one time, declaring that he was very ill; at another, that he was much better, or quite well; particularly after an anodyne, which immediately allayed the nervous irritability. Indeed, as the case advanced, the symptoms became so anomalous, variable, and complicated by their ubiquity, if I may use the expression, and by occasional delirium, as to involve the diagnosis in the great-

est obscurity. It was evident that there was much mischief going on; but such extent of disease could scarcely have been appreciated, until revealed by dissection. Latterly, however, the obscurity cleared away—and the swelling of the abdomen—the great prostration of vital power—the rapidly increasing emaciation—the frequent rigors, terminating in profuse sweating—and other symptoms of hectic, unequivocally denoted the existence of internal suppuration—and he died on the 16th of March, 1837.

Without indulging in speculations, for which I have neither leisure, nor you room, probably, at present, upon the pathological appearances about to be related,—or entering upon the questions of the primary, or secondary nature of the phlebitis,—or the connexion between inflammation of the inner venous membrane, and secondary affections, with purulent deposits—questions which have been anxiously discussed by the first practical authorities, and frequently and ably adverted to in your Journal, I now proceed simply to detail, without comment, the morbid appearances observed on dissection, in the interesting case under consideration.

Sectio Cadaveris 14 hours, post mortem. There were slight adhesions between the pulmonary and costal pleura, on the left side of the chest; but the lungs and the heart were in a healthy state. The abdominal cavity contained about three pints of yellowish turbid serum, intermixed with flocculi of lymph and albumen. The peritoneal surface of the intestines was of a dark cineritious colour; but, in some places, mottled and rough, from the effusion of coagulating lymph; by which exudation different portions of the intestinal convolutions were agglutinated together, and to the contiguous viscera. The opposite portions of the parietal peritoneum, also, exhibited a reddish, mottled, or ecchymosed appearance. The stomach was distended with gas and fluid; and its coats were so softened as to be easily lacerated. About an inch and a half below, and to the right of the cardiac extremity, a puru-

lent exudation was observed, from a small opening externally, which descended by a sinuous passage into the stomach: the superior situation, and obliquity of which would, by acting like a valve, prevent any escape of its contents. The subserous cellular tissue was in many places infiltrated with a purulent looking fluid. On removing this organ, and nearly opposite to the above-mentioned aperture, the posterior surface of the stomach was found abraded by ulcerative inflammation, and the cellular tissue between it and the pancreas was loaded with purulent deposition. Upon opening the stomach, it was found to contain a large quantity of gas, and of a dark green fluid, such as he had vomited before death: and its mucous surface was so soft, that it could be readily scraped off with the nail. The pancreas was much indurated, and by its removal the splenic vein behind, which was intimately attached to it, was ruptured; from which flowed a quantity of purulent matter of a deep yellow colour. This extraordinary appearance led to a careful examination of the portal system generally, and its ramifications in the liver and spleen were attentively traced by my first assistant, Mr. Weale, who is an excellent anatomist. They were found, throughout, to retain a similar puruloid fluid; but in those of the liver it seemed to be mixed with thick bile; and in many of the vessels there were somewhat long, but slender coagula of blood. The lining membrane of the larger trunks was rendered rough by filmy attachments of lymph; and their coats were thickened, and preserved a cylindrical form; so that on a superficial examination, they might have been mistaken for arteries. The liver was soft, and the spleen, also normal; but both afforded a similar puruloid exudation on pressure,—it may be presumed, from their minute venous ramifications. The *venæ cavæ hepaticæ*, and the mesentric veins were also, perfectly healthy. The gall-bladder contained about two ounces of greenish bile, and the ducts were pervious. On detaching the *caput coli*, a large collection of pus was found

deposited in the cellular tissue, between it and the iliac muscles: and the ulcerative process had destroyed the muscular and mucous tunics, causing a small opening into the gut; but the direct apposition of the intestine to the iliac wall, prevented the escape of any of its contents by the perforation. The internal surface of the intestines, and the mesentric glands were natural.—The structure of the kidneys was softened, but otherwise normal; and the urinary bladder did not present any unusual appearance.

DAVID J. H. DICKSON.

P.S. I have at present a patient labouring under ascites, who has been repeatedly tapped; and, latterly, 26 pints of fluid have been abstracted every eight or ten days. He has now been relieved by paracentesis 12 times; and how much longer this may go on is uncertain: but as there is much visceral disease, I cannot expect the same felicitous result as in the extraordinary case of the officer who recovered after having been, also, tapped 12 times, four years ago. He remained quite well the last time I heard of him.

The preceding case is an interesting one, and we feel much indebted to our able friend, Sir David Dickson, for enabling us to present it to our readers.

The history and the circumstances of the case would rather tend, we imagine, to this:—that inflammatory action, originating in the gastro-intestinal mucous membrane, extended, by contiguity of tissue, to the serous and the cellular membrane—and that the phlebitis was consequent on the inflammation and suppuration which ensued.

This explanation of the facts is more consistent with the history of the case and with what occurs after injuries, than the supposition that the phlebitis was the primary affection. The case itself will repay an attentive perusal.—*Editors.*

BIRMINGHAM EYE INFIRMARY.

REPORT OF THE CASES ATTENDED BY
R. MIDDLEMORE, Esq. from Jan. 1,
to December 31, 1836.

There are few who pursue the practice of ophthalmic surgery, with more zeal than Mr. Middlemore, of Birmingham. His various contributions to journals and Transactions evince both his industry and his information, in this particular department of our science.

The following Report is contained in the Transactions of the Provincial Medical and Surgical Association, published within these last few days. The cases attended by Mr. Middlemore in the year 1836, are:—

Simple acute conjunctivitis, 116. Chronic conjunctivitis, 45. Acute conjunctivitis, with pustule or ulcer on the cornea or conjunctiva, 98. Acute conjunctivitis with puriform secretion, 55. Purulent conjunctivitis of new-born infants, 45. Irritable conjunctivitis, 53. Strumous conjunctivitis, 46. Effusion of various kinds beneath the conjunctiva, 13. Disease of the semilunar membrane and lachrymal caruncle, 4. Corneitis, 26. Vascularity of the cornea, 7. Pannus, 4. Opacity of the cornea, 44. Staphyloma of different kinds, and of various parts, 13. Ossification of the cornea, 1. Impaction of foreign bodies in the cornea and conjunctiva, 22. Sclerotitis, 13. Ulceration of the sclerotica, 3. Morbid growth from the cornea and sclerotica, 2. Pterygium, 3. Simple acute iritis, with or without ulcer of the cornea, onyx, or hypopium, 34. Chronic iritis, 3. Syphilitic iritis, 3. Strumous iritis, 5. Prolapse of the iris, 4. Vacillation of the iris, 3. Choroiditis, 6. Varicose ophthalmia, 3. Retinitis, 2. Cataract, 29. Fungoid and other tumours within, and upon the surface of, the eye-ball, 7. Amaurosis of various kinds and in different degrees, 50. Diseases of the lachrymal apparatus, 21. Strabismus, 7. Ophthalmia tarsi, 71. Lippitudo, 7. Hordeolum, 4. Entropium, 5. Ectropium, 3. Inflammation of the eye-lids, 12. Ptosis, 1.

Ulceration of the eye-lids, 6. Tumours in the eye-lids, 20. Wounds of the eye and its appendages, 30. Adhesion of the eye-lid to the eye-ball, 4. Congenital defects, 6.

Mr. Middlemore notices more circumstantially some particular affections.

1. *Irritable Ophthalmia.*

"In three examples of irritable ophthalmia, which have fallen under my observation during the past year, and which occurred in poor women, who had continued to suckle for an injudiciously long period, in the hope of deferring their subsequent pregnancy, one eye only was affected in each case; and on inquiry, I found that the subjects of the malady suckled only with the breast of the side corresponding to the diseased eye. I do not know a more decided proof of the asserted connexion subsisting between protracted lactation, and the irritable form of ophthalmia, which occasionally affects the eyes of females during that period."

We do not know that this can be considered very decided evidence of the connexion between lactation and ophthalmia. The best evidence is the frequent coincidence of the two affections, such frequency of coincidence or of sequence constituting, in fact, the ordinary evidence of cause and effect, or of the relation of one thing to another.

2. *Carcinomatous Growth from the Cornea and Sclerotica.*

Joseph Wilkes, æt. 49, residing at Redditch, has been suffering for several weeks from a painful tumour arising from the surface of the eye. It is about the size of a shilling, of a red colour, firm texture, and very uneven surface, it is firmly attached to the surface of the sclerotica and cornea, but chiefly to the former; it is not very painful when touched. The conjunctiva is inflamed, but the cornea, and iris are not so affected. There is very copious lachrymation, and considerable intolerance of light. The patient is employed as a waggoner; and he states

that the disease has come on gradually, and from no cause with which he is acquainted.

Mr. Middlemore was desirous of removing the whole anterior part of the eye-ball. He was over-ruled, but no doubt, he was right. He dissected away the morbid growth from the surface of the membranes to which it adhered. In about two months after the patient's return home, the growth re-appeared, and has since rapidly increased. But the patient will not submit to another operation.

The growth, when examined, was found to be hard, and interspersed with firm white bands and spots; its surface was vascular, and had a rough craggy appearance. It more nearly resembled cancer of the eye-ball than any other disease.

3. *Melanotic Growth from the Semilunar Membrane.*

"I have now a patient in attendance at the Eye Infirmary, in whom there is a filmy prolongation, of a melanotic character, of the membrana semilunaris; and, just at the temporal side of the lachrymal caruncle, there is also a dark-coloured tumour of the size of a large pea. It appears, though much darker, a good deal like a portion of iris recently prolapsed through an opening in the cornea. The disease has existed for several years, but has lately much increased owing to her having scratched it whilst rubbing her eye. I have told this poor woman that nothing but a surgical operation is likely to relieve her, but she will not at present allow me to remove the diseased part. I have never before seen a case precisely similar to this, during the whole course of my practice.

Since the preceding paragraph was written the tumor increased in size so very rapidly that the patient was anxious to have it removed. This was readily accomplished by means of the small curved scissors, as it was but slightly adherent to the semilunar membrane, and quite unattached to the sclerotic. It was covered by the conjunctiva, and appeared to have been chiefly

No. 69.

developed in the subconjunctival cellular membrane. The tumor itself was not organized: it consisted of a firm substance of an irregular dark colour, its external surface being densely black, its middle and posterior portions being of a dark brown colour, intermixed with lines and streaks of an extremely black appearance. The whole of the tumor became comparatively pale after it had been immersed in spirit of wine three or four days."

4. *Ossification of the Cornea.*

Job Woodcock, æt. 69, had suffered for some months from extreme pain in the left, and serious irritation in the right eye—he is troubled with chronic rheumatism.

The right eye appears to be suffering only in consequence of the disease in the left. On a careful examination of the left eye, it was ascertained that the cornea was the seat of ossific deposition at several points; that the lamellæ, beneath which one of them existed, had become absorbed; and that the friction of the sensitive lining of the palpebra upon this partially exposed portion of ossific matter occasioned the whole of his uneasiness.

With an ordinary extraction-knife, Mr. M. made a semi-circular incision at the lower part of the cornea, just beneath the last ossific deposition; then, raising the flap with the forceps, he rapidly detached its superior part. In a day or two, the man could resume his occupation.

5. *Circumscribed Vascular Prominence of the Cornea.*

Edward Newton, æt. 13, of a scrofulous constitution, has a prominence of considerable size at the fronto-temporal part of the sclerotic, which has existed for several weeks. The prominent part is very vascular and full of large pink-coloured vessels: it does not appear as though the texture of the sclerotic were either attenuated or thickened. The part is not particularly tense or tender when touched. The disease came on gradually, without

local injury. It is not attended with pain, and scarcely at all affects the sight.

No medicines were of any service. Mr. Middlemore has seen other cases, which were equally irremediable. The projections, after attaining a certain magnitude, do not appear to increase.

6. *Extensive Bulging of the Sclerotica.*

Louisa Chatwin, æt. 59, of a feeble constitution, has suffered on various occasions from acute rheumatism. The right eye became tender and dim, but without much pain or redness, many months ago, and the sight of it now is nearly destroyed.

State of the Eye.—The cornea is cloudy, and studded with a considerable number of very minute ulcers. The pupil has a glaucomatous appearance, and the sclerotica is considerably bulged at its temporal side. The enlarged part of the sclerotica is slightly discoloured, but it is not very vascular. The mouth was made sore by the administration of mercury, and with the effect of removing the diseased appearance of the cornea.

7. *Disease somewhat resembling Malignant Affection of the Eye-ball.*

G. S. æt. 10, a healthy boy, complained of uneasiness of the right eye, with loss of vision, a few days before he applied to Mr. M.

“State of the Eye.—There is a very faint arrangement of pink vessels around the cornea, and slightly increased lachrymation. The iris is pushed towards the cornea so as to be nearly in contact with it, and to resemble a small short funnel with its broad part directed towards the retina. The pupil exhibits a bright shining appearance, exactly like what I have seen in cases of incipient fungus hæmatodes, but there are no blood-vessels to be seen ramifying within the eye. The pupil is not very small. The lens appears to be slightly cloudy, and to be in contact with the iris, except at its most central point,

with which, indeed, none but an almost fluid lens could so adapt itself as to be in actual contact with it at that part. On his next visit it was observed that the pupil was nearly closed—it was a mere perpendicular fissure, pretty much like that of the cat when the eye is exposed to a bright light. The pupillary margin is drawn backwards, so as to render the iris convex, just as though, in its expanded state (contracted pupil), its pupillary and ciliary margins being fixed, a solid body was pushed against its intervening part. During the last few months the eye appears to have undergone no change, except that it is entirely free from uneasiness, and is slightly atrophied. When I last saw him the eye appeared to be still more atrophied, but in other respects, pretty much as before. The opposite eye is quite strong and perfect.”

Mr. M. employed a course of mercury. He has witnessed several cases very similar to the preceding, which terminated in atrophy of the eye-ball.

WORCESTER INFIRMARY.

REPORT FOR THE YEARS 1835 AND 1836.*

In the year 1835, there were admitted into the Infirmary, as in-patients, 666 patients; 28 of whom died.

The following tables shew the number of cases, and of deaths, which occurred in each month, distinguishing those under the age of 20 years, from those above that age, and also whether males or females:—

* Provincial Transactions.

	MALES.				FEMALES.			
	Under 20 years.		Above that age.		Under 20 years.		Above that age.	
	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.
January	5	0	29	2	10	0	26	2
February	6	0	30	3	6	0	17	0
March	6	0	30	2	8	0	17	0
April	7	0	27	2	10	0	8	1
May	8	1	42	3	11	0	11	0
June	9	0	26	1	8	0	8	1
July	11	0	26	1	2	0	15	1
August	3	0	30	1	9	0	25	0
September	7	1	22	0	5	0	8	0
October	5	0	20	1	4	0	15	1
November	6	0	30	1	9	2	14	0
December	2	0	20	0	8	0	5	0
Total	75	2	332	18	90	2	169	6

	TOTAL MALES.		TOTAL FEMALES.		OF BOTH SEXES.	
	Cases.	Died.	Cases.	Died.	Cases.	Died.
January	34	2	36	2	70	4
February	36	3	23	0	59	3
March	36	2	25	0	61	2
April	34	2	18	1	52	3
May	50	4	22	0	72	4
June	35	1	16	1	51	2
July	37	1	17	1	54	2
August	33	1	34	0	67	1
September	29	2	13	0	42	2
October	25	1	19	1	44	2
November	36	1	23	2	59	2
December	22	0	13	0	35	0
	407	20	259	8	666	28

The proportionate mortality in males and females, under 20 years of age and over it, is displayed in the next Table.

	Under 20 years.		Died.	Proportionate mortality.	
Males	75	..	2	..	1 in 37,5
Females	90	..	2	..	1 in 45,
	165		4		1 in 41,25
	Above that age.				
Males	332	..	18	..	1 in 18,44
Females	169	..	6	..	1 in 28,166
	501		24	..	1 in 20,875
	Males.				
Under 20 years	75	..	2	..	1 in 37,5
Above that age	332	..	18	..	1 in 18,44
	407		20	..	1 in 20,35
	Females.				
Under 20 years	90	..	2	..	1 in 45,
Above that age	169	..	6	..	1 in 28,166
	259	..	8	..	1 in 32,375

	Total.				
Males	407	..	20	..	1 in 20,35
Females	259	..	8	..	1 in 32,375
	665		28	..	1 in 32,78

In the year 1836, there were admitted as in-patients 618 persons, 37 of whom died. Of the 618 admitted, 374 were males, and 244 were females. In the following Table, we see the number of cases which occurred in each month, and distinguish the patients under and over 20 years of age, as well as the males and females.

	MALES.		FEMALES.	
	Under 20 years. Cases.	Above that age. Cases.	Under 20 years. Cases.	Above that age. Cases.
January	6	—	10	—
February	5	—	6	—
March	7	—	8	—
April	7	—	3	—
May	2	—	2	—
June	7	—	7	—
July	7	—	8	—
August	5	—	6	—
September	3	—	10	—
October	7	—	7	—
November	5	—	5	—
December	6	—	6	—
	67	307	78	166

CLINICAL FACTS AND OBSERVATIONS.

We have thought that it might be as well to collect together some of the many valuable hints, that we find in reports of Clinical Lectures and of Hospital cases. They may form a sort of tail to the more elaborate articles which have gone before.

1. *Opening a small Abscess.*

"If you consult those books which treat of abscess, you will find it laid down as a general rule, that where the abscess is of small size, it ought to be left to nature to effect an opening, because this, it is said, will be small, and consequently leave but an inconsiderable cicatrix. According to this view, small abscesses are to be left to themselves, provided they be not too indolent, nor advance too rapidly. But I reject this method; for if the aperture made by nature be small, why should

not that made by art be made small likewise? It is only necessary for this purpose that we use an instrument with a narrow blade, and that we make a simple puncture."—*Lisfranc, Med. Gaz.*

2. *To prevent Scars in the Neck.*

"Abscesses of the neck ought to be opened by means of a simple puncture. I do not now allude merely to small abscesses; I have opened, in this manner, purulent depôts of considerable size, and, although the extent of the incision was not in proportion to the collection of matter, yet was all the pus evacuated, while the cicatrix which remained did not exceed that of a leech-bite. This precept is of great importance, not only to the welfare of the patient, but to the reputation of the surgeon."

If there is a lodgment at the lower part, a small counter-opening is necessary. The incision, in any case,

should always be made transversely, in the direction of the natural folds of the skin.—*Ibid.*

3. How to open a large Abscess.

"The bistoury is to be held in the first position: the two first fingers, separated from each other, and extended, are to be placed, if possible, beyond the tumour, as a *point d'appui*: the tissues which are penetrated must be divided in a perpendicular direction: the middle finger, placed on the blade of the instrument, serves to regulate the depth of the incision. This is very important, for if the instrument cuts ill, or if the texture be hard, we are under the necessity of pressing more strongly on the parts to be divided; and without the precaution of having the finger as I have described, we should incur the risk of plunging in the instrument too far. Besides, it is easy to push the bistoury farther in if necessary, by drawing back the finger on the blade of the instrument. We must do all gently: thus, when the blade arrives in the collection of pus, the hand will perceive the fact, because the knife is now passing through a less resistance than before. The only exception to this is where there are muscular contractions of a nature to interfere with the resistance. I cannot well give you a measure of the slowness necessary in this proceeding; but always remember this fundamental principle in operative surgery—*tuto* is better than *cito*."—*Ibid.*

It is refreshing to hear a man of the admitted dexterity of Lisfranc, of a dexterity probably quite unequalled, denouncing the stop-watch mode of operating. A master of celerity himself, he points out the folly, we might almost say the wickedness, of making it the paramount consideration.

4. How to open a deep Abscess in the Neck.

"Take the neck as an example: I there make an incision parallel to its axis, and which divides layer by layer successively the skin, the cellular membrane, and, if necessary, the superficial aponeurosis. I next take a blunt probe,

and limit the extent to which it is to penetrate the textures, by holding it between the thumb and fore-finger. I then introduce this to the bottom of my incision, and make it pass on by separating, or rather pushing aside the fibres of the parts beneath. Whenever the instrument has entered the abscess, there is a cessation of resistance besides which I perceive drops of pus oozing along the sides of the instrument. I then push it upwards and downwards, so as to enlarge the opening, and thus the matter finds a ready exit."—*Ibid.*

5. Uncertainty of Dividing the Stricture in Hernia, external to the Sac.

This case is related by Mr. Adams in *Medical Gazette*.* It deserves attention, because it shews the danger that might result, from the operation of dividing the stricture in hernia, without opening the sac.

March 14—A man, 39 years of age, was admitted into the London Hospital with the usual symptoms of strangulated hernia. He had been the subject of inguinal hernia for many years, but had never worn a truss, and latterly the hernia had been irreducible. Two days ago a fresh protrusion took place, which he was unable to return. His bowels had been moved on the same morning. The ordinary symptoms of strangulation set in, and he was brought to the hospital in a state of much depression. Very slight attempts at reduction were consequently made, which were unsuccessful, and the operation was performed. The sac contained no fluid; a large portion of omentum was observed, of a healthy appearance. On unfolding this, a small knuckle of intestine was seen: this was found to be tightly strictured in the vicinity, apparently, of the inner ring. The intestine could be easily pushed towards the abdomen, but immediately returned. The stricture was divided and the intestine readily passed into the abdomen. There was a distinct annular line indicating the situation

* April 22, 1837.

of the neck of the original peritoneal sac, but this was much below the strangulated gut. The man died on the following morning, apparently from the mere impression upon his constitution, for the intestine is in a very favourable condition. On making an examination after death, it became apparent that a portion of intestine had descended through an opening formed by a band stretching across from the omentum on one side to a portion of adjacent intestine, and in this had become strangulated, and consequently the stricture in this instance had been divided within the abdominal cavity.

We quite agree with Mr. Adams, that the stricture in hernia very often results from an altered condition of the narrow portion, or what may be termed the mouth of the sac, which in that situation becomes exceedingly thickened.

6. *Why the Recurrent Nerve is Recurrent.*

The course of the recurrent nerve is explicable without referring to any particular functions it could be supposed to favour. Tiedemann has shewn that in the short neck which the early embryo possesses, the first branch which the aorta gives off arises opposite the lower margin of the face, and therefore almost on a level with the origin of the recurrent nerve, which at this time passes straight to the larynx. But as the neck elongates, the subclavian arteries descend, and bring down the nerve with them. This is confirmed by those rare cases of anormal arrangements in which the right subclavian, arising on the left side of the chest, passes across the œsophagus to the other side; for in these the inferior laryngeal nerve of the right side has not a recurrent course, but passes straight in the larynx, as shewn in a preparation of the museum of the College of Surgeons in Dublin, of which a drawing was exhibited. Other instances of a recurrent course of nerves are found in the dental nerves of porcupines and other rodentia, as shewn in a specimen where the filament sup-

plying the incisor tooth, arising in the middle of the dental canal, is obliged to return at an acute angle to reach the pulp of the tooth.*

These observations are extracted from an interesting Lecture delivered at the Royal College of Surgeons, by that able anatomist, Mr. Stanley.

7. *Cause of the Inclusion of the Tendon of the Biceps in the Scapulo-humeral Capsule.*

The tendon of the biceps is in the early embryo altogether outside the shoulder-joint, but in succeeding periods becoming, as it were, protruded into the cavity, it carries upon and after it a duplicature of the synovial membrane, which attaches it to the upper wall like a mesentery. But this double fold soon splits and disappears, and the tendon is left, passing through the cavity of the joint, surrounded by synovial membrane, which is continuous with that lining the capsular ligament only at its two extremities.†

8. *Expense of Patients in the Royal Infirmary of Glasgow.*

The expense of each patient, taken in its fullest extent, comprehends his equal share of the whole ordinary expenditure—that is, repairs, furniture, and incidental charges, as well as salaries, medicines, and provisions. This entire sum, amounting during the year to £6135. 6s. 8d., divided by 5130, the whole patients, dismissed or dead gives £1. 3s. 11d. the average sum which the treatment and maintainance of each patient, one with another, costs the establishment. Otherwise if the above sum, £6135. 6s. 8d., be divided by 327, the average number of beds occupied throughout the year, the quotient £18. 15s. 3d. will be the expense of each bed constantly occupied for the whole year with a succession of patients. If we restrict the expenditure to the salaries, medicines, and provisions, leaving out the repairs, furniture and incidents, the amount now reduced to £4957. 8s. 6d. and divided

* Med. Gaz. June 3, 1837.

† Ibid.

as above stated, will give 19s. 4d. for the net expense of each patient, and £15. 3s. 2d. for the annual charge attending the continued occupation of each bed. If we confine ourselves to provisions alone, the expenditure, thus farther restricted, being £3479. 6s. 6d., and subjected to the same calculation, will give 13s. 7d. for the average cost of provisions furnished to each patient, and £10 12s. 9d. as the sum required to supply provisions to all the occupants in succession of each bed for the whole year.*

9. Gouty Ramollissement of the Spinal Marrow.

Professor Graves, in his valuable Clinical Lectures, alludes to this affection, which he believes not to have been hitherto described.

"It has been long known that gout may attack the brain, and the existence of gouty paraplegia is well known by practitioners who have studied attentively the progress of arthritic affections. Thus, in a case which I witnessed some time back, in consultation with Mr. Kirby, he prognosed the super-vention of paraplegia at a time when the indications of its approach could not have been discovered by an observer of less experience and sagacity. I have already stated that gouty affections of the brain have long been known, and I am not sure that some of the older authors may not have alluded to gouty affections of the spinal marrow; but as our knowledge of the peculiar state of the brain and spinal cord, termed ramollissement, is comparatively recent, and not dating with any degree of accuracy earlier than the works of Abercrombie, Rostan, and other modern authors, it is obvious than any observations made by the older writers, concerning gouty affections of the nervous centres, can have no distinct reference to this lesion. The connexion, therefore, of ramollissement of the spinal cord with gout, may be considered as now, for the first time, distinctly pointed out."

Two cases are related in illustration.

We will abridge the particulars of one, as a sample of the nature of the malady; it is, at all events, a good case of softening of the medulla.

Case. Mr.—was much addicted to field sports, and would wade up to his middle in water, for many hours, during very cold weather. He was abstemious in his habits. In 1825, when about 25 years of age, he had fever, attended with inflammation of the joints, and said to be rheumatic; some pain and stiffness, and an evident enlargement of the knee-joints, remained, after the other articular affections had disappeared; these symptoms, however, yielded, in a few months, to rest and appropriate treatment. In the Spring of 1832 he was attacked with pain in one foot, supposed to be of a gouty nature: this pain disappeared during a drive of fifteen miles in an open carriage, but a certain degree of tenderness remained, and was always felt, more or less, in the part originally affected. He had a similar attack and pain and tenderness in the same foot in the following Autumn. This too diminished during a drive of twenty miles. In August 1833, he had a similar, but much more severe attack; the pain was much more violent than before, and both feet were affected. This, however, did not prevent him from following field sports as usual; he went on horseback to the mountains to shoot grouse, and to this exercise, and drinking a bottle of wine, he attributed his speedy, or rather sudden recovery from the pain in his feet.

In September 1833, he was seized with violent colic, attended with singular restlessness, and with singultus, and succeeded by jaundice. In January, 1834, he had another attack of colic, preceded by a fit, and similar attacks recurred frequently until August, 1835, when tremor of the fingers became visible. During some preceding attacks, he used to complain of weakness of the wrist and pains in the fingers, particularly the last joints. As the disease progressed, these pains became more intense and extensive, and the torture he felt in the hands and

* Annals of Medicine.

arms was beyond description. After August 1835, he began to lose the use of his arms, the tremors increased, and he began to complain of stiffness about the neck, with great restlessness and anxiety. The abdominal attacks came on occasionally, but not so severely as before. The arms became gradually weaker, until the loss of muscular power was complete, and they were greatly emaciated. The intellectual faculties remained perfectly unimpaired. In October 1835, two months after the state of the upper extremities had indicated the approach of paralysis, the lower extremities became similarly engaged: they were affected with tremors and weakness, and in the following December the patient had an attack of violent pain, with swelling and increased heat in the ball of one foot, which was pronounced to be of a distinct gouty character. After each attack of pain in the feet, the loss of power in all his limbs increased, and he was always rendered worse. All medical and other advice was useless, and in October, 1836, he died, having, for some time previously been greatly emaciated, quite paralytic in all his limbs, but not affected with any impairment of his intellectual powers.

Dissection. Dr. Graves was informed by Dr. Williams, who conducted the examination of the body that the viscera of the thorax and abdomen were healthy and normal, that no derangement or lesion of the brain could be detected, but that the spinal cord opposite to the last cervical and first dorsal vertebræ was softened to the consistency of thick cream; the remainder of the cord was also softer than natural, but did not present any thing peculiar in other respects.

Nothing we imagine, can be more reasonable, nothing more consistent with the facts of the case, than the supposition that this gentleman's imprudent habits, so favourable to the occurrence of rheumatic inflammation, so calculated to repel gout from the extremities and surface, were the means of setting up inflammatory action of a gouty nature in the spinal cord. But it must be owned that in this, and in

other instances, gouty inflammation must be received in a latitudinarian sense, and that strict induction would limit us to the admission *that* inflammatory lesions occurred in such or such an organ, in a gouty habit, under circumstances calculated for the retrocession of gout from the surface.

10. *Reformation of Factory Morals.*

"Independently of the present voluptuous, I may almost say, indecent, fashion of female dress, which to our national disgrace, is only seen in these kingdoms; the heat of the workshops compels the young women and girls, who work in them, to dress both lightly and lossely, which cannot fail to inflame the passions of their male fellow-labourers. And even, although there may be a separation of the sexes, no modest person can enter either department without having their ears offended by oaths and indecent language. The remedy appears to me to be simple and easy, viz., by making the older and steadier persons, both male and female, monitors to the rest, who in order to remove the inquisitional appearance of the system, should be stimulated by suitable rewards, to imitate their good conduct, and to try to obtain a similar appointment, to which a higher rate of wages should be attached. Thus, at the expense of a few shillings per week, the manufacturer would have the satisfaction of knowing that for his private gain he had put no stumbling blocks in their way, nor had 'led' any person 'into temptation;' and would, eventually, derive a greater advantage from the labour of his dependents; for it is an invariable rule that the steadiest workpeople are the most gainful to their employers."

These observations are contained in a Report from the Birmingham Infirmary, by Dr. Ogier Ward. The Report is published in the last volume of the Provincial Transactions.

11. *Successful Treatment of Lead-Colic.*

"Besides painters, &c., lead colic prevails among brass tap-makers, and glass polishers. The former mix 1-15th of

lead with the metal, which 'sweats out' during the cooling, and is removed by the file and lathe: the latter make use of the oxide as a polishing powder. I rarely use opium internally, except to allay pain after the bowels have been well opened; and this is accomplished by turpentine and castor oil, or calomel and hyoscyamus, with a purgative by the mouth, and castor oil and turpentine in glysters, injected pretty forcibly to overcome the constriction, for such I believe to be the opposing cause, and not a paralysis of the intestines. These means, with opiate liniments to the abdomen, I have never known to fail of giving relief, where calomel and opium have been tried in vain."—*Ibid.*

12. *Treatment of Pleurodynia.*

"The cases of simple pleurodynia were rare, but combined with amenorrhœa and dyspepsia they were very numerous. From having observed this pain in the side to be almost invariably excited or increased by taking food, and from its complication with dyspepsia or gastritis in so many instances, I cannot but conclude that it consists in an inflammation or irritation

of the cardiac portion of the stomach. I cannot call to mind a single case of its occurrence in the right side. Except in highly hysterical and nervous patients I have had but little difficulty in removing it by leeches, blisters, and prussic acid or creosote. I have given bismuth frequently, but never with any benefit. When the pain has not been very obstinate, I have found the tartar emetic ointment of great service, applied over the seat of the pain or to the spine; for in these cases I have generally found the same pain is produced by tapping the spine, as by direct pressure over the part."—*Ibid.*

13. *Prevalence of Tape-worm in Birmingham.*

"The number of persons, chiefly women, affected with tape worm in this town is astonishing, the cause of which does not appear. I find the fern root very efficacious when, as is frequently the case, the patient cannot be induced to take the turpentine. One patient told me she had passed a worm that measured eighty yards!—*Ibid.*

MISCELLANIES.

IRISH MEDICAL CHARITIES BILL.

CONCURRENTLY with a Bill for the Relief of the Destitute Poor in Ireland, the Government has introduced one for the regulation of the medical charities of that country—a measure as humane as it is wise and necessary.

This is a subject of considerable importance, and we are anxious to bring it under the consideration of the profession in each country.

It may not be known to many on this side of the Channel, that the mode of raising funds to supply the sick poor of Ireland with medical aid, is very different from that resorted to in England. In the latter country, all the hospitals and dispensaries are supported by private contributions—parish medical aid alone being supplied from a public fund. But this fund is raised as a portion of a poor-rate. In Ireland, on the

contrary, all the metropolitan and county infirmaries, all the fever hospitals, dispensaries, and lunatic asylums are supported either entirely or partly, but chiefly by public funds, raised from each county as a part of the county-rates.

The sum thus expended on the public medical charities of Ireland is about £180,000. a year; and the number of sick poor receiving medical aid in them or from them is, we are informed by persons well conversant with the subject, no less than 1,360,000 annually. But, from a variety of circumstances, the existing institutions are quite inadequate to afford professional attendance to that portion of the community *really* requiring it, whilst many who are not fit objects are enabled to throw themselves on these charities, thus depriving the sick paupers of a portion of the funds which should be exclusively reserved for them, encreasing the public assessment

unnecessarily, and depriving the profession of any advantages they might otherwise obtain from attendance on the class alluded to.

These are not mere surmises or assertions; that such is the fact has been shewn beyond all doubt or controversy. The credit of having first pointed out the defects and abuses of the medical charities of Ireland is due to Mr. Phelan of Clonmell, whose statistical enquiry we have before given some account of. His exposure of the defects of medical charities of his country, and the remedial measures which he suggests for their improvement have been fully agreed to by the four medical men who inspected a great many of these institutions under the Irish Poor Enquiry Commission.—(See *Appendix, B.*) And these suggestions have been made a considerable part of the ground-work of the measures proposed for the relief of the destitute poor of Ireland by the Commissioners.—(See *Third Report Irish Poor Enquiry Commission.*)

Under these circumstances, when the Government was about to provide for the destitute poor of Ireland, it was but right that it should also provide a better system of affording the sick poor the necessary medical aid—there being so intimate a connexion between destitution and sickness, which, in fact, are often only convertible terms.

Lord Morpeth has accordingly introduced “A Bill for the better Regulation of Hospitals, Dispensaries, and other Medical Charities in Ireland.” Without entering into the details of the Bill, we will state its chief objects; which are first, to repeal the various acts which empower Grand Juries to make presentments for the different medical charities, *and which they can only do under certain circumstances*; 2dly, to authorize the Lord Lieutenant to appoint four physicians or surgeons as inspectors of public medical charities in Ireland, which inspectors are to keep an office, and to form a Board, and are empowered to make rules and regulations for the general management of each class of these charities; and who are also required to inspect each institution twice a year, to make a report respecting it, to receive half-yearly returns of the state of disease in each district, and to submit an abstract of the whole to Parliament every year. The third portion of the Bill requires of the local governors, or committee of any hospital, dispensary, &c. to send a yearly estimate of the amount of funds, which will probably be necessary for the ensuing year, with an account in de-

tail of the expenditure, &c. for the past years to the medical inspectors, on whose examination, and, of course, on whose recommendation the Lord Lieutenant is authorized to advance the *necessary* sum to such local committee, to be by them expended under such regulations as the medical inspectors, *sanctioned by the Lord Lieutenant*, may frame for the purpose. And the sums so advanced, it is imperative on the county fiscal authorities to grant, for the purpose of repaying the Government.

In addition, the Poor Law Commissioners are to have an *inspectorial* power over all these public charities, and are authorized to make such regulations for their government as may insure that they shall be managed according to the existing wills, statutes, laws, &c. of each, or of each class. The object of this appears to be, to provide that the medical inspectors shall make their regulations in conformity with the existing laws, &c. But the Bill wisely secures the assistance of professional men, to make the necessary rules and regulations for the general medical managements of all the public institutions of the country;—a provision which must, in a great measure, obviate the difficulties, or the jealousies, that would be sure to arise, were the Poor Law Commissioners the only authority to regulate such numerous and such expensive charities, whose good management is essentially necessary for all classes of the people of Ireland.

Hitherto the infirmary, and much of the fever hospital, accommodation of Ireland, was what may be called *too much concentrated*; and on that account less useful to the sick poor beyond a certain distance. This Act provides for the erection of a greater number of hospitals, &c. under certain limitations—thereby enabling the sick poor of every district to obtain medical aid. This is a vast advantage; for how can it be expected that many bad surgical or acute medical cases will bear removal to a hospital 15, 20, or 40 miles distant, as is now necessary. Again, it will provide dispensary aid in each district, and at a very moderate expense, by locating an educated medical man at a fair salary. But, in addition, the appointment of medical inspectors, (for, we are sure the Government will appoint none but men of character, and of a matured judgment,) will ensure that the public and private funds shall be judiciously and faithfully disbursed—and that the really sick poor, and those only, shall be provided for.

We request of the medical profession in this country to take a lesson from the active exertions of their Irish *confreres*, particularly of those of Munster, in this matter. They have induced the government to admit and adopt a principle which we most highly approve of—that medical men should be the immediate and directing parties to regulate the public medical charities of a country. It is quite evident, from the account here given of the different means by which funds are raised for hospitals, &c. in this country and in Ireland, that such a machinery is much more called for in the latter country than in the former; but still we cannot help observing, that when so large a sum as between 2 and £300,000. a year is expended on gratuitous medical parish aid in England, even here some medical functionaries would be useful in framing rules, &c. for the expenditure of so much money, so that the profession and the public might have the advantage of those who must be most conversant with the subject.

We wish the Irish Medical Charities, Bill every success, and trust the Legislature—those of all parties—will pass it into law.

We cannot conclude without expressing how deeply the profession and the public are indebted to Dr. Nugent, of Cork, and Surgeon Phelan, of Clonmell, for their exertions in this measure. They have left their professional avocations in Ireland, and have been in London for several months, offering such suggestions as great attention to the subject has enabled them to do with advantage, and watching over the interests of the sick poor and the medical practitioner of the Sister Isle. We sincerely hope that such exertions and sacrifices will not be allowed to go unrewarded, and that those with whom the patronage lies, will not fail to place these gentlemen in situations where their zeal and abilities may continue and complete the arrangements they have so successfully organized.

OBITUARY.

GENERAL BILL OF MORTALITY FOR
LONDON, FROM DEC. 15, 1835, TO
DEC. 15, 1836.

Diseases. | Age & Debility, 2320
Abscess . . . 110 | Apoplexy 405

Asthma] . . .	853	Insanity . . .	226
Cancer . . .	123	Jaundice . . .	35
Childbirth . . .	172	Jaw, locked . .	6
Cholera . . .	2	Liver, diseased, .	246
Consumption . .	3235	Measles . . .	404
Constipation of .		Miscarriage . .	16
the Bowels . . .	14	Mortification . .	194
Convulsions . .	1617	Paralysis . . .	164
Croup . . .	169	Rheumatism . .	32
Dentition, or . .		Scrofula . . .	29
Teething . . .	393	Small-pox . . .	536
Diabetes . . .	1	Sore Throat & .	
Diarrhœa . . .	21	Quinsey . . .	36
Dropsy . . .	847	Spasm . . .	59
on the Brain . .	578	Stone & Gravel .	13
on the Chest . .	54	Stricture . . .	14
Dysentery . . .	7	Thrush . . .	93
Epilepsy . . .	24	Tumor . . .	47
Erysipelas . .	75	Venerœal . . .	8
Fever . . .	354	Worms . . .	17
(Intermittent . .		Unknown Causes	1139
or Ague) . . .	2	Casualties, as . .	
(Scarlet) . . .	261	under . . .	439
(Typhus) . . .	59	— . . .	
Fistula . . .	6		
Gout . . .	91	Casualties . . .	
Hæmorrhage . .	33	Drowned . . .	104
Heart, diseased .	155	Died by Visita- .	
Hernia . . .	10	tion of God . .	53
Hooping-cough .	311	Excessive } . .	18
Hydrophobia . .	1	Drinking } . .	
Indigestion . .	10	Found dead . .	23
Inflammation . .	1482	Killed by vari- .	
Bow. & Stom. . .	236	ous Accidents .	192
Brain . . .	165	Murdered . . .	2
Lungs & Pleura .	272	Poisoned . . .	6
Influenza . . .	5	Suicides . . .	41

Buried { Males . . 9,202 } Total, 18229.
 { Females . 9,027 }

Of the Number buried were

Under 2 years . .	40	& under 50, . .	1948
of age . . .	4157	50 & under 60, .	1866
2 & under 5 yrs. .	1634	60 & under 70, .	1849
5 & under 10 . .	783	70 & under 80, .	1573
10 & under 20, .	673	80 & under 90, .	685
20 & under 30, .	1315	90 & under 100, .	94
30 & under 40, .	1651	107	1
Decrease in the burials reported this year, .			3185.

2. DEATH OF DR. MOWER.

We regret to announce the death of Dr. Mower, of St. James's Place, Physician to the Hospital Ship at Deptford. Dr. Mower was a very intelligent and gentlemanly man, highly respected by those who had the pleasure of his acquaintance.

3. DEATH OF PROFESSOR HIMLY.

The celebrated chemist, Professor Himly of Goettingen, was drowned on the 15th ult, in the most extraordinary manner. He was taking his morning's walk, and being absorbed in reflection, it is supposed, forgot his proximity to the river Leine, fell into it and perished before any assistance could reach him. His loss to the scientific world will be irreparable.—*Times*.

4. DEATH OF DR CUMMIN.

This took place at his house in Great Russell Street, on the 10th of April, in the 37th year of his age.

Dr. Cummin was an able writer, a clever journalist, and, by the concurrent testimony of those who knew him best, an honest man. His lectures on forensic medicine were highly valuable and much esteemed.

5. DEATH OF M. DUBOIS.

This pupil of Dessault, and friend of Bichat and Lavoisier, died at Paris, on the 30th of March, in the eighty-first year of his age.

6. DEATH OF MR. VANCE.

The Medical World is too well acquainted with the violent and untimely end of Mr. Vance, to render it necessary for us to go at length into the particulars. We would willingly indeed be spared the painful office of chronicling the death of an old and esteemed friend.

Mr. Vance entered the medical de-

partment of the Navy in 1792, and was promoted to be a full surgeon two years after. He then served at sea for twelve or fourteen years, when he was appointed one of the surgeons of Haslar, the great naval hospital. Here he acquired the reputation of a good operative surgeon: but in consequence of some differences which occurred, he, as well as several other surgeons, were removed; and his next service was in a small hospital at Painton, in Devonshire, where he married. At the peace of 1815, Mr. Vance was restored to his old quarters at Haslar, from whence he was once more removed to the charge of Greenwich Hospital in 1819. Soon after this he was allowed to retire on the invalid list, and settled in London.

Mr. Vance obtained a large and lucrative practice, which was rather of a medical than a Surgical complexion. His reputation among his old brother officers, as well as in the fashionable circles of London stood high, higher, perhaps, than among his professional brethren. He was more remarkable for his tact than talent, more of a practical than of a scientific or a philosophic mind. He never contributed by any published papers to the advance of medicine, and his chief merit in his early years was operative dexterity; in his latter years his management of dyspeptic disorders.

On the 21st of March, being then in his 67th year he was thrown down by a madman, and received a severe scalp-wound. Erysipelas of the scalp ensued, and he died in the course of a week.

EXTRA-LIMITES.

MR. ANNESLEY'S REPLY TO THE LATE MR. TWINING.

My attention having recently been called by an Article in the Medico-Chirurgical Review for April 1836, No. 48, page 451, to a work published in Bengal by the late Mr. Twining, in which that gentleman misrepresents my views as to the treatment of diseases of the spleen, I consider it due to the public and to myself to enter into some explanation of that subject.

Mr. Twining's work, I am aware, has been published a considerable time, and I may have been to blame for not having read it, and taken an earlier notice of the remarks, which he has made upon my opinions—my reasons for this were, not that I was unprepared to defend my own position against the attacks of Mr. Twining, for I always intended to do so as soon as I had sufficient leisure for it—but that my important and extensive official duties would have rendered it impossible to follow up the discussion, as I could wish, without trespassing too much upon time, which I could scarcely venture to call my own, looking forward at the same time, to my retirement from the service, at no very distant period, as promising a favourable opportunity for this purpose.

Mr. Twining is now no more, and I would therefore wish to avoid the expression of any feeling his misrepresentation of my views would naturally call forth. Had I been earlier impressed with the nature of these animadversions, I most assuredly should have noticed them before, but, as I have already said, I owe it to the Medico-Chirurgical Review, that I am now acquainted with them, and I cannot, for a moment, submit, to allow the medical public to remain in ignorance of these misrepresentations, or my real views of the treatment of that disease.

Mr. Twining, at page 475—6, declares, that I recommend a free use of mercury as a general practice in diseases of the spleen, and he evidently intends to insinuate, that I advocate the *specific action of mercury*, on the constitution in those diseases. This is a mistake on the part of Mr. Twining. I have never advocated any such practice, nor do I intend to do so. He has not, as it appears to me, quoted my words at pages 5 and 6 of my work with fairness, and has drawn an inference from these extracts, which will be found on a reference to the original work, unwarranted. I am always ready to receive with good humour, and indeed with gratitude, the friendly strictures of fair criticism, but without expressing more than unfeigned surprise at such apparently wilful misrepresentations of my views, I here give, in juxta position, Mr. Twining's garbled extracts and the original paragraphs at pp. 5 and 6 of my work.

1st Quotation by Mr. Twining.

"In vol. II. page 5.—In cases of simple tumefaction without inflammatory action, a full dose of calomel at bed time, and a purgative in the morning, are advisable to be continued daily, or every other day, according to the circumstances of the case."

be continued daily, or every other day, according to circumstances of the case, until the motions (which are morbid in almost all the cases of diseased spleen which have come before us) have assumed a healthy hue. After purgatives have been employed two or three times, then the nitro-muriatic acid wash should be assiduously applied over the region of the spleen, and the nitric acid may be given internally at the same time in the patient's drink."

2nd Quotation.

"In congested and tumefied spleen, after having given two or three full doses of calomel, or calomel and opium at bed-time, we should adopt with much benefit the blue-pill and the aloes and
No. 69.

The original Paragraph from page 5, vol. II.

Annesley's Diseases of India

"When simple tumefaction of the spleen without inflammatory action comes before us, little more is requisite than to carry off the morbid secretions which are usually present, and to give energy to the digestive organs. This is best done by a full dose of calomel at bed-time and the purging powder or bitter purging draught the following morning. These remedies should

Page. 6.

"We cannot too strenuously recommend this treatment in diseases of the spleen, especially the nitro-muriatic solution, but in order that this latter may be beneficial, a continued and well regulated course of purgatives, and afterwards

myrrh pill, giving them every night, and the full dose of calomel every third or fourth night only."

Mr. Twining adds to this—"I am obliged to express my disapprobation of the above instructions in the strongest terms."

myrrh pill, giving them every night, and the full dose of calomel every third or fourth night only—but the purgative draught should be continued every morning until the disorder disappears."

Now I ask, is it fair, is it honest, to call this "recommending a free use of mercury, as a general practice, in diseases of the spleen"? Calomel has been recommended by me, exclusively, as a purgative, never as a mercurial to affect the constitution; and there is a wide difference between these two uses of that mineral. I have long observed, and I speak confidently of the fact, that calomel has a specific action upon the tenacious and viscid secretions of the bowels; it attenuates such secretions, and prepares them for being carried off by other purgatives, which would not have been so effectual without the previous dose of calomel; and throughout my work, wherever I have prescribed calomel in full doses, a purgative is always recommended to be taken after a suitable interval. These viscid secretions of the bowels, in which calomel is so useful as a purgative, are particularly common in cases of diseased spleen; hence my recommendation of calomel, as a purgative, in those cases, but, mark, as a purgative only, in aid of those other means suggested for the correction and improvement of the secretions, as stated more fully in my publications—nowhere have I suggested the specific action of mercury upon the constitution in diseases of the spleen, on the contrary, I have warned the practitioner that, under peculiar states of diseased spleen, calomel, even as a purgative, should be used with the greatest caution.—*Vide pp. 455, 493 and 494, Vol. II.*

From these facts, I am led to believe, that Mr. Twining never read my published opinions, with sufficient care, to enable him to understand what they really were. Had he lived, I would have entered more largely into the subject, but my sole object now, is, to defend my own views from misrepresentation, and to guide the public aright as to the real character of my professional publications. I may have committed errors, none of us are infallible, and I shall feel greatly indebted for any such strictures upon my labours, as will enable me to correct mistakes, or to make my object more intelligible, where the imperfections of my style may have rendered my meaning obscure. Truth is my object, and I am as ready to respect it, under all circumstances, as I am prepared to repel misrepresentation.

(Signed)

24th October, 1836.

J. ANNESLEY,
Madras Med. Establishment.

LONDON MISSIONARY SOCIETY.

THE Directors of the London Missionary Society are solicitous to obtain well-qualified medical men, of decided piety, capable of undertaking the most important operations of surgery, to labour as Missionaries in China. The situation and circumstances of China, with her vast population and her debasing superstitions, is calculated to excite the sympathies of every Christian mind. The cultivation of an amicable intercourse has been attempted by expensive embassies and commercial energies, but little however has been effected towards the removal of the restrictions on foreigners, or the conciliation of the natives. Missionaries have laboured assiduously, but they have made comparatively little impression. Of late years they have brought medicine to bear, as an auxiliary and as a pioneer, and several benevolent medical men have co-operated with them in their efforts to overcome existing restrictions, and, from those already made, it is very evident that the Chinese esteem most highly our medicines and advice, and place themselves willingly under European practitioners, whose skill and benevolence have been firmly established, and by whose exertions prejudices have been more extensively removed than by all other transactions put together. Dr. A. Pearson introduced vaccination into China in 1805, and the practice soon spread through that vast empire, and is now generally adopted by native surgeons. Drs. Livingstone and Colledge opened an ophthalmic hospital at Macao in 1827, and, during the last two years, Dr. Parker, an American

missionary and physician, has opened a similar institution at Canton, and during the first nine months, no fewer than 1674 patients were relieved. Dr. P. is still prosecuting his important labours, and is very anxious for others to join him, as spheres are fast opening in which the most talented and zealous may find full scope for their utmost energies. The following medical qualifications would be required:—besides having received a thorough medical education, and possessing extensive practical experience, the candidates should be fully informed on physiology and pathology, therapeutics and pharmacy, clinical and operative surgery, including ophthalmic and aural surgery, with obstetric medicine. Some time will be allowed before leaving England, to be devoted to the acquirement of biblico-theological instruction and the elements of the Chinese language. It is thought that, independent of the immense blessings that may be conferred on China by such medical men, medical science itself must be benefitted by the transmission to this country of much information on a variety of subjects connected with the natural history of plants and of the peculiar diseases of the natives of that interesting portion of the globe.

Further information may be obtained by applying to the Secretaries of the London Missionary Society, at the Mission House, Bloomfield Street, Finsbury Circus.

GENERAL REGISTRATION OF DISEASES.

THE following address to the members of the profession by the heads of the medical corporate bodies is creditable to the latter, and deserves the attention of the former. We quite agree in all the suggestions which are made,

“We the undersigned President of the Royal College of Physicians, President of the Royal College of Surgeons, and Master of the Worshipful Society of Apothecaries, having authority from the several bodies whom we represent, do resolve to fulfil the intentions of the Legislature in procuring a better registration of the causes of death, being convinced that such an improved registration cannot fail to lead to a more accurate statistical account of the prevalence of particular diseases from time to time.

We pledge ourselves, therefore, to give in every instance which may fall under our care, an authentic name of the fatal disease.

And we entreat all authorized practitioners throughout the country to follow our example, and adopt the same practice, and so assist in establishing a better registration in future throughout England; for which purpose we invite them to attend to the subjoined explanatory statement, in which they will set forth the provisions of the recent statute, and the means whereby the important object we have recommended may most effectually be attained.

HENRY HALFORD, *President of the Royal College of Physicians.*

ASTLEY COOPER, *President of the Royal College of Surgeons.*

J. HINGESTON, *Master of the Society of Apothecaries.*

Explanatory Statement.

The recent Act for registering births, deaths, and marriages in England, presents an opportunity for obtaining that great desideratum in medical statistics—a more exact statement of the causes of death, in the case of every registered death throughout the whole of England and Wales, after the month of June next ensuing.

The register-books in which all deaths are to be registered after the last day of June, 1837, contain columns wherein may be inserted the cause of death, in juxtaposition with those other important illustrative circumstances, the sex, the age, and the profession, or calling of the deceased person. Each register-book will also be assigned to a particular district of small extent, and will thus show in what part of the kingdom each death has occurred. If therefore, the cause of death be correctly inserted, there will exist thenceforward public documents, from whence may be derived a more accurate knowledge, not only of the comparative prevalence of various mortal diseases, as regards the whole of England and Wales, but also of the localities in which they respectively prevail, and the sex, age, and condition of life, which each principally affects.

For the attainment of this object it is necessary to insure, as far as it is possible, the ‘cause of death.’ It is obvious that on this subject the requisite information can seldom be given to the registrar, except by the medical attendant on the deceased person, and that even if the registrar be a medical practitioner (which in many instances will be the case), yet will he often be unable to ascertain the truth in this respect, if he is to depend

solely on the reports of persons ignorant of medicine, and of the names and nature of diseases; and it cannot be expected that from his own knowledge he will be able so far to correct their errors as to insure a statement worthy of credit. The requisite information must therefore be supplied, either directly or indirectly, by the medical attendant of the deceased person; that is to say, if such medical attendant is not applied to by the registrar, he must afford the requisite information to those other persons to whom the registrar must apply.

The persons who, according to the act for registering births, deaths, and marriages in England, must give information to the registrar on being requested to do so, are 'some person present at the death, or in attendance during the last illness,' or 'in case of the death, illness, or inability, or default of all such persons, the occupier of the house or tenement, or (if the occupier be the person who shall have died) some inmate of the house or tenement in which such death shall have happened. It is also provided, that 'for the purposes of this Act, the master or keeper of every gaol, prison, or house of correction, or workhouse, hospital, or lunatic asylum, or public or charitable institution, shall be deemed the occupier thereof.'

It is therefore earnestly recommended that every practising member of any branch of the medical profession who may have been present at the death, or in attendance during the last illness, of any person, shall immediately after such death place in the hands of such other persons as were in attendance, of the occupier of the house in which the death occurred, and of some inmate who may probably be required to give information, written statements of the cause of death, which such persons may show to the registrar, and give as their information on that subject.

It is desirable that such statement should be very short, the column in the register-book in which it is to be inserted being not more than sufficient for the insertion of about ten words of moderate length. It should, therefore, contain only the name of the disease which was considered to be the cause of death, and not a detailed account either of antecedent symptoms, or of the appearances which may have presented themselves after death. It is also desirable that such statement should exhibit the popular or common name of the disease, in preference to such as is known only to medical men, whenever the popular name will denote the cause of death with sufficient precision."

CASE OF EMPYEMA CURED BY PARACENTESIS.

By JAMES EDWARD, M.D., Forfar.

IN May 1836, while Peter Steven, farm servant, aged 22 years, was engaged in unloading a cart, a sack of meal rolled over him and bruised his breast. A short time after this he began to complain of acute pain in the right side, of difficulty in breathing, and a dry cough. His tongue was very foul, his urine small in quantity and highly coloured. His bowels constipated with slight delirium. To relieve him of these, venesection was tried three different times, leeches were applied to the pained part, and tartrate of antimony was given in solution, and blisters and laxatives were used together with antiphlogistic regimen. By these a little temporary relief was afforded. The malady, however, again began and continued, now and then to increase, till December, 1836, when, on comparing the sides of the thorax, I found the right side considerably larger than the left. The intercostal spaces were greatly increased, fluctuation could also be felt and on applying the ear to the side the respiratory murmur could not be heard, but a dull sound was given by percussion. From these symptoms there was sufficient proof of an accumulation of fluid in the chest. I therefore seriously advised the patient to let me make an opening between the ribs to rid him of this matter. To this proposal he consented with great reluctance. I proceeded in the operation by placing the patient on a chair in the sitting position, and by making an incision, nearly two inches long, upon the upper edge of the eighth rib, rather toward the posterior part of the thorax. I then divided the intercostal muscles, taking care to avoid the intercostal artery which lies in a groove on the lower margin of the seventh rib. By introducing a trocar and canula through the pleura, upwards of three pounds of purulent matter flowed from it at once, and the discharge continued for three months after that time. The wound is now quite whole, and the side appears to be smaller than the other. By percussion the sound is dull, and the respiratory murmur cannot be heard. He has now quite overcome the disease, and is enjoying a tolerable degree of health. The only remedies used after the operation was a nourishing diet and mineral acids.

PRINCIPAL ORIGINAL PAPERS PUBLISHED IN THE WEEKLY AND MONTHLY BRITISH JOURNALS, BETWEEN THE 25TH OF MARCH AND THE 10TH JUNE, 1836.

1. ANATOMY.

Dublin Journal.

- On the Discovery of Ciliary Motions in the Cavities of the Brain; by Purkinje.—March.
On the Organized Bodies found in the Seminal Fluid of Animals, and their Analogy to the Pollen of Plants; by G. R. Treveranus.—March.

2. MATERIA MEDICA, AND PRACTICE OF MEDICINE.

Dublin Journal.

- Medical Problems. By William Griffin, M.D. Limerick.—March.
Scarlatina, with Ulceration of the Throat, and inflammation of the arachnoid membrane. By T. Burke, Esq.—March.
History of an extraordinary case which terminated fatally in the Hospital of the 2d Dragoon Guards, at Cahir Barracks, 30th April, 1829. By Andrew Brown.—May.
On the use of the nitro-muriatic acid Bath. By Charles Lendrick, M.D.—May.
On the treatment of various diseases by means of creosote. By Sir Francis Smith, M.D.—May.

Medical Gazette.

- On the curative effects of the strychnos nux vomica in dyspepsia. By H. S. Belcombe, M.D.—March, 25.
Remarks on the treatment of hydrocephalus acutus. By Dr. Mayo.—April 8.
On the late influenza. By Dr. Heberden.—April 9.
On the application of solid nitras argenti in the gonorrhœa of women. By A. Hannay, M.D.—May 6.
Case of diabetes; with remarks. By Henry Snowden, Esq.—April 22.
Case of severe cough ending in rupture of the lung, and general emphysema of the body. By T. G. Hicks, Esq.—April 22.
On the bruit du diable. By E. Boulton, Esq.—April 22.
Case of cephalœa from a tubercle embedded in the cerebellum. By R. Jeffreys, Esq.—May 20.
Case of laryngitis and tracheotomy. By T. Armstrong, Esq.—May 20.
Case in which seven half-crowns had been swallowed. By H. Wakefield, Esq.—May 20.
On the inapplicability of statistics to the

practice of medicine. By M. Double.—June 3.

- Case of spontaneous mortification of the toe, treated by tightly bandaging the leg. By T. Spender, Esq.—May 13.
On lytta in diabetes. By Jesse Leach, Esq.—May 13.
Observations on the stethoscope. By Geo. Budd, Esq.—May 27.
On the tonic treatment of erysipelas. By A. Kirhup, Esq.—April 29.
Clinical instruction.—April 29.
On the late influenza. By E. Greenhow, M.D.—April 1.
Cold sponging in fits. By C. J. Aldis, Esq.—April 1.
On paralytic and painful nervous affections. By T. Grantham, Esq.—April 15.
On the epidemic influenza. By G. Fife, M.D.—April 15.
On the treatment of inflammation, with some remarks on influenza. By H. Searle, Esq.—April 15.

Lancet.

- Case of poisoning with aconite, successfully treated. By H. C. Sherwin, Esq., Surgeon, Hull. March 25.
Account of an epidemic erysipelas at West Auckland and its neighbourhood. By John Kilburn, Esq.—May 20.

3. PHYSIOLOGY.

Medical Gazette.

- An experimental enquiry into the comparative state of urea in healthy and diseased urine, &c. By R. McGregor, Esq.—May 20.
On the organic filament and its tissues. By T. Hake, M.D.—April 1.
On the influence of gravity on the circulation of the blood. By F. Mosely, Esq.—April 15.
What are the practical indications of the pulse in disease? By R. Burke, M.D. Ap. 8.
On the connection of the anterior columns of the spinal chord with the cerebellum. By Samuel Solly, Esq.—April 8.
On the powers on which the functions of life in the more perfect animals depend, and on the manner with which they are associated in the production of their more complicated results. By R. Philip, M.D.—March 25.
On the mechanism of respiration, and the respiration of the fœtus. By M. W. Hilles, Esq.—May 20.

4. SURGERY.

Dublin Journal.

- Remarks on fracture of the neck of the thigh bone, external to the capsule. By James Douglas, M.D. March.

An essay on wounds of the heart. By Cathcart Lees, A.B.—May.

Medical Gazette.

Hernia—rare form of stricture. By J. Adams, Esq.—April 22.

Account of a new speculum vaginæ. By W. Beaumont, Esq.—April 22.

Two lectures on lithotrity, and the bilateral operation. By Edwin Lee, Esq.—May 13.

On the organization and economy of bone. By Prof. Stanley.—June 10.

Solid nitrate of silver in gonorrhœa. By James Smith, M.D.—May 27.

On phlegmasia dolens of the eye. By R. Middlemore, Esq.—April 1.

Practical Observations on Hernia. By C. F. Skey, Esq.—April 1.

Lancet.

Dislocation of the radius on the posterior surface of the ext. condyle of the humerus. By G. Hopper, Esq. Surgeon.—April 15.

On the operation for strangulated hernia, to facilitate the taxis, without wounding the peritoneum. By M. W. Hilles, Esq. Surgeon.—April 15.

On the cure of club-foot by division of the tendo-achillis. By Dr. W. J. Little.—April 15.

5. PATHOLOGY.

Dublin Journal.

On the occurrence of crystals in the intestinal canal, in cases of abdominal typhus. By Professor Schoenlean, of Zurich.—March.

An account of tubercles in the air-cells of a bird, and some observations on tubercles in general. By Robert Harrison, M. D.—May.

Medical Gazette.

On the crepitous râles. Strictures on certain passages of M. Laennec's work. By E. Harrison, M.D. May 6.

On the acoustic principles of the stethoscope. By Charles Williams, M. D.—June 3.

On the connexion of urea with gout. By G. Weatherhead, Esq. M.D.—May 27.

On the bruit du diable. By T. Ward, M.D. April 1.

Hydatid tumors—their formation and pathology. By H.C. Sherwin, Esq.—Apr. 1.

Lancet.

On the connexion between hectic fever and suppuration, and the absorption of pus. By C. W. Edwards, Esq.—April 22.

6. MIDWIFERY.

Dublin Journal.

On the length of the umbilical cord, and its influence upon parturition. By F. Churchill, M.D.—March.

Observations on the artificial dilatation of the mouth of the womb during labour, and upon instrumental delivery, &c. By Robert Collins, M.D. March.

An enquiry into the management of the first stage of labour. By Edw. Murphy, A.M. M.D.—May.

Medical Gazette.

Advantage of ergot of rye over instrumental assistance in some cases of labour. By J. Evans, Esq.—April 22.

On the first stage of labour. By James Hamilton, M.D. June 10.

Remarks on a case published in the Medical Gazette, entitled "Pregnancy, with imperforate Uterus" By J. North, Esq.—June 10.

Lancet.

On the prevention of anticipated uterine hæmorrhage after parturition. By Tho. Abraham, Esq.—April 22.

Remarks on the employment of the compress and bandage for the suppression of uterine hæmorrhage after delivery. By W.A. Walford, Esq.—April 22.

6. LECTURES.

Lectures on materia medica, or pharmacology and general therapeutics, delivered at the Aldersgate School of Medicine. By John Pereira, F.R.S.—*Med. Gazette*

Clinical lectures delivered at the Meath Hospital and County of Dublin Infirmary, during 1836-7. By Prof. Graves.—*Medical Gazette.*

Abstract of lectures delivered before the College of Surgeons, in April, 1837. By Professor Stanley.—*Medical Gazette.*

Course of lectures on medical jurisprudence. By Professor A. T. Thomson.—Now being delivered at the University of London.—*Lancet.*

Course of lectures on the physiology of the nervous system. By M. Magendie. Delivered at the College of France in 1836.—*Lancet.*

Course of lectures on materia medica and therapeutics. By Dr. Symond.—*Lancet.*

Clinical lecture on the exanthematic form of syphilis. By Dr. Wallace.—*Lancet.*

Notes of lectures on physiology. Delivered at the Argyle Rooms. By Dr. Fletcher.—*Medical and Surgical Journal.*

BIBLIOGRAPHICAL RECORD;

1. On Deformities of the Chest and Spine. Illustrated by Plates. By WILLIAM COULSON, M.R.C.S. &c. Second ed. greatly enlarged. Hurst, St. Paul's Church-yp. 1837.

2. Proceedings at the 18th Anniversary Meeting of the Hunterian Society, held on the 6th February 1837, with the Report, &c.

3. Historical and Medical Researches into the Origin, Nature, and Treatment of Syphilis. By M. DEVERGIE, Sen. Translated by JOHN SINCLAIR INNES, Surgeon. Duodecimo, Edinburgh, 1837.

4. The American Cyclopædia of Practical Medicine and Surgery, a Digest of Medical Literature. Edited by ISAAC HAYS, M.D. &c. Part X. Philadelphia, 1836. September. *Ascites to Azygos*.

5. Homœopathy briefly examined in a Letter to Sir Henry Hallford, M.D. by a Licentiate. 8vo. pp. 66. Highley, 1837.

6. A Companion to the Ship's Medicine Chest. Being a Short Treatise on the Diseases of Seamen and Others in Tropical Climates, &c. By W. G. TADDY, Surgeon. Duodecimo. Highley, 1837.

 A useful little work where there is no surgeon on board.

7. The Anatomy, Particular and Surgical, of the Human Body, illustrated by a Series of Engravings, partly copied from the works of the most celebrated authors, and partly from Nature. By A. FYLE, F.R.S. &c. late Demonstrator of Anatomy in the University of Edinburgh. Corrected and arranged by P. D. HANDYSIDE, M.D. F.R.S.E. &c. 4to. Fasciculus 2. Coloured 4s. Edinburgh and London, 1837.

8. Oration delivered before the Members of the Royal Medical Society of Edinburgh, at the Celebration of their Centenary, February 13, 1837. By W. B. CARPENTER, Senior President of the Society. 8vo. pp. 36. Edinburgh, 1837.

9. Maladies des jeunes filles pendant d'Époque de l'Accroissement. Premier Memoire, de la Chlorose. Par BUREAUD RIOFFREY, M.D. pp. 34. Sherwood and Co. 1837.

10. Maladies des Organes de la Voix. Premier Memoir, Sur Laryngite Aigue.

Par BUREAUD RIOFFREY, M.D. Sherwood and Co. 1837.

11. Gny's Hospital Reports, No. IV. April 1837. Edited by GEORGE H. BARLOW, M.D. and JAMES P. BABINGTON, M.A. &c. 8vo. pp. 310. Highley, 1837.

12. A Treatise on Diseases of the Eye and its Appendages. By RICHARD MIDDLEMORE, M.R.C.S. Surgeon to the Birmingham Eye Infirmary, &c. In two volumes. 8vo. pp. 844. Longman, 1835.

13. The Works of John Hunter, F.B.C. with Notes. Edited by JAMES F. PALMER, Senior Surgeon of the St. George's and St. James's Dispensary, &c. In four volumes, illustrated by a volume of plates, in Quarto. Vol. the Second, pp. 448, with a Fascic. of Plates. Longman & Co. 1837.

14. A Practical Compendium of Diseases of the Skin, &c. By JONATHAN GREEN, M.D. Second Edition corrected and improved, with two illustrative plates. 8vo. pp. 371. Whittaker, 1837.

15. A Treatise on the Diagnosis and Treatment of Diseases of the Chest. Part the First, Diseases of the Lung and Windpipe. By WILLIAM STOKES, M.D. Physician to the Meath Hospital, &c. 8vo. pp. 557. Dublin, 1837.

16. The Continental and British Medical Review, &c. No. 3. May 1, 1837.

17. A Dictionary of Practical Medicine, &c. &c. By JAMES COPLAND, M.D. F.R.S. &c. Part IV. London, May, 1837. Longman and Co.

18. An Address delivered to the Members of the Worcestershire Natural History Society, on the Opening of the W. Museum, September 15, 1836. By CHARLES HASTINGS, M.D. 8vo. pp. 57. Sherwood. May, 1837.

19. The Oration delivered before the Medical Society of London, at their 64th Anniversary Meeting, March, 1837. By EDWARD HEADLAND, Honorary Secretary to the Society, &c.

20. A History of British Quadrupeds. By THOMAS BELL, F.R.S. Part IX. price 2s. 6d. May 1837.

21. An Experimental Inquiry into the Comparative State of Urea in Healthy and Diseased Urine, and the Seat of the Formation of Sugar in Diabetes Mellitus; an Essay, &c. By ROBERT M'GREGOR, Licentiate of the Royal College of Surgeons, Glasgow, &c. Glasgow, 1836.

22. Clinique Medicale de l'Hôpital de la Charité; ou Exposition Statistique des diverses Maladies traitées à la Clinique de cet Hôpital. Par J. BÉVILLAUD, M.D. Professeur de Clinique, &c. In two volumes, 8vo. pp. 503-488. Baillière, Regent-street. May, 1837.

23. Medical Essays. No. 2. The Imagination. By J. HUNGERFORD SEALY, M.D. 8vo. pp. 91. Sherwood, London, 1837.

24. The Principles of the Theory and Practice of Medicine, including a Third Edition of the Author's Work upon Diagnosis. By MARSHALL HALL, M.D. F.R.S. &c. &c. 8vo. pp. 503. Sherwood, 1837.

25. The Northern Flora, containing the Wild Plants of the North of Scotland. By ALEXANDER MURRAY, M.D. 8vo. pp. 150, with Appendix. Part the First. Edin. 1837.

26. A Treatise on the Diseases and Injuries of the Larynx and Trachea, founded on the Essay to which was adjudged the Jacksonian Prize for 1836. By FREDERICK RYLAND, Surgeon to the Town-Infirmity, Birmingham. 8vo. pp. 338, with Plates. Price 18s. Longman and Co. 1837.

27. Rudiments of Physiology. By Dr. FLETCHER. Part 3 on Life, as manifested in Sensation and in Thought. Edited by ROBERT LEWINS, M.D. with a Biographical Memoir of the Author. Edin. April, 1837.

28. The Philosophy of Human Nature, in its Physical, Intellectual, and Moral Relations, &c. &c. By HENRY M'CORMAC, M.D. 8vo. pp. 564. Longman, 1837.

29. Toxicological Table exhibiting the exact appearances on Analyzing any Solution suspected to contain the following Poisons, Salts of Copper—Salts of Arsenic Corrosive Sublimate—Oxalic Acid—Prussic Acid—Opium—Salts of Lead. By JOHN ROBINSON, M.D.

30. Two Lectures on Lithotritry and the Bi-lateral Operation, &c. By EDWARD LEE, Esq. Surgeon. From the London Medical Gazette.

31. Additional Remarks on the Use of English Mineral Springs, especially those of Bath, Cheltenham and Leamington, with the most recent Analyses. By ED. LEE, Esq. London, Churchill. June, 1837.

32. The Teeth a Test of Age, considered with reference to the Factory Children. By EDWARD SAUNDERS. 8vo. pp. 76. Renshaw, Strand, 1837.

33. *In M.S. to be presented to the Royal Medico-Chirurgical Society.*

On the Philosophy of Blood-letting and Venous Congestion. By MARTIN PAINE, M.D. of New York.

 *The Society had just closed its sittings for the Session, when the above MS. was received. It will be presented in due time for the ensuing season.*

34. What Asylums were, are, and ought to be, being the Substance of Five Lectures delivered before the Managers of the Montrose Royal Lunatic Asylum. By W. A. F. BROWNE, Surgeon, &c. 8vo. pp. 231. Adam Black, Edinburgh, 1837.

35. The Transactions of the Provincial Medical and Surgical Association. Instituted in 1832. Vol. 5. Sherwood, 1837.

36. The Philosophy of Instinct and Reason. By J. STEPHENSON BUSHNAN, M.D. 8vo. pp. 316, with plates. Edinb.

37. Address of Earl Stanhope, President of the Medico-Botanical Society, for the Anniversary Meeting, January 16th, 1837.

 *Eloquent, Comprehensive, yet minute.*

38. Aphorisms on Natural and Difficult Parturitions, Puerperal Diseases, and on the Physical Management of Infants. By MICHAEL RYAN, M.D. Duodecimo, pp. 28.

39. The Medico-Chirurgical Formulary; or a Conspectus of the Best Prescriptions, &c. &c. By MICHAEL RYAN, M.D. M.R.C. Duodecimo, 1837.

40. An Introduction to Medical Botany, &c. &c. By THOMAS CASTLE, M.D. F.L.S. 8vo. pp. 276. Cox.

41. A Translation of the Pharmacopœia Londinensis, of 1837, with Descriptive and Explanatory Notes on the Materia Medica, &c. By THOMAS CASTLE, M.D. F.L.S. &c. Duodecimo, pp. 260. Cox, Borough, June, 1837. Price 5s.

INTELLIGENCE &c.

Post Mortem Examination of His Late Majesty

WINDSOR CASTLE, JUNE 20, 1837.

On examining the mortal remains of His late Majesty William the Fourth, the following appearances were noticed:—

In the right cavity of the chest there was an effusion of about 14 ounces of serous fluid.

The lung on that side was nowhere adherent, the vessels of the lower lobe were very much tinged with blood, and the air-cells contained a mucous and serous fluid having a bloody tinge.

The left lung adhered generally and with great firmness to the surface of the pleura lining the chest; these adhesions appear to have resulted from former attacks of inflammation.

The vessels of this lung were also tinged with blood, and its lower portion was somewhat indurated.

The rings of the trachea and bronchi were ossified to a great extent; and the lining membrane was of a dark colour, in consequence of the distended state of the vessels.

The pericardium adhered universally to the surface of the heart; but these adhesions were slight, and appeared to be of very recent formation.

The heart itself was large, and softened in its texture. Its right side was extremely distended with blood, but exhibited no marks of organic disease.

On the left side of the heart the mitral valves were found to be ossified, and the three semilunar valves of the aorta were in the same state. The ossification was in two of them to such an extent that it must have materially interfered with their functions.

The coats of the aorta were thickened, and on its inner or lining membrane there were several deposits of earthy matter.

The liver was somewhat enlarged and hardened, and was of a granulated structure throughout.

The gall bladder was extremely contracted, and contained but little bile.

The spleen was increased to double its natural size, and a large portion of its surface was covered with a cartilaginous deposit.

The pancreas was enlarged and indurated.

The stomach and intestines were healthy, except at one part of the large intestine, which was narrowed by a thickening of its inner membrane.

The right kidney was quite sound, but the left was unusually vascular, and exhibited a granulated appearance. The investing membrane adhered very slightly to it.

The bladder was in a healthy state.

Signed by M. J. TIERNEY.

ASTLEY COOPER.

WM. F. CHAMBERS.

ROBT. KEATE.

DAVID DAVIES,

B. C. BRODIE.

ED. DUKE MOORE, Apothecary to the Queen.

REMARKS.

The line of demarcation between the chronic and the acute—the old and the recent—the structural and functional affections, in the above case, is easily defined. In the **FORMER** category are, the pleural adhesion in the left side—the tracheal and bronchial ossifications—the enlargement of the heart—ossification of mitral and aortic valves—thickenings of the aortic coats—enlargement and degeneration of structure in the liver—enlargement of spleen—induration of pancreas—granulation of kidney.

Among the recent, functional, and inflammatory affections, must be ranged, the *pericarditis*, with its product adhesion by coagulable lymph—effusion into the right cavity of the chest—hepatization of the lung. That this was *red* hepatization, making it as the product of recent inflammation, is clear from the general inflammation surrounding, and from the specific allusion to *redness of the vessels*—*bronchitis*. Thus, then, there were three kinds of acute or subacute inflammation engrafted on previous organic disease—namely, *pleuritis* and *pericarditis*, *pneumonia*, and *bronchitis*. This was a most formidable complication—and we have no doubt that the condition of parts was accurately ascertained, during life, and that the treatment was skilful and appropriate.

That the organic changes above enumerated had existed for years before the accession of His Majesty's last illness, there can be no doubt; and that the Royal Sufferer might have

lived for years, had the inflammation of so many different structures not intervened, there is every probability. The supervention of inflammation on old standing organic diseases renders the management of the case more difficult, but does not alter the principles of the treatment. In such a multiplicity of inflamed tissues as dissection here disclosed, nothing but the strictest antiphlogistic treatment could offer a hope of relief; and no doubt this course was pursued. The apparent slowness of the pulse, at times, is easily accounted for by the imperfection of the mitral valves. The action of the heart we have often found to be double or triple the number of pulsations at the wrist. This inequality was never accounted for till auscultation cleared up the mystery. In the post-mortem report, there is an obscurity respecting the *redness of the vessels*. It does not state whether this redness was confined to the bloodvessels, or extended to the air-vessels or tubes. The case of our King is altogether one of extreme interest, and we hope that some account will be given of the symptoms and the effects of remedies.

We have received some communications relative to the publication of the *Cyclopædia of Practical Surgery*. It is no doubt a very desirable thing that works of this kind should be punctually brought out, at the appointed periods. But whoever considers the manner in which they are got up, the numerous individuals to be consulted, entreated, and grumbled at, cannot wonder at the occurrence of delay. The more valuable the contribution and contributor, the more independent is usually the latter, and the less punctual the former. Men occupied in practice must snatch what hours they can for writing, and if pestered too much by editors and printers' devils, they will not write at all. We could therefore recommend our correspondents and the subscribers to the *Cyclopædia* to have patience. The more haste, probably, the worse speed in these cases.

St. George's Hospital Medical School.

We are requested to state, and feel great pleasure in doing so, that the following prizes were delivered at the end of the session, 1836—7, to the Pupils of this School. The distribution took place in the Anatomical Theatre belonging to the Hospital School, in Kinnerton Street.

Practice of Physic.—Prize, Mr. Perry Dicken—Honorary Certificate, Mr. Henry Jewel.

Materia Medica.—Prize, Mr. Frederick Nightingale.

Surgery.—Prize, Mr. Alfred Smith—Honorary Certificates, Mr. Perry Dicken, Mr. Henry Jewel, Mr. Edmund Young.

Midwifery.—Prize, Mr. John Crook—Honorary Certificates, Mr. Perry Dicken, Mr. John Taylor.

Anatomy.—Senior Prize, Mr. Edmund Young—Senior Honorary Certificate, Mr. Perry Dicken—Junior Prize, Mr. Alfred Warder—Junior Honorary Certificates, Mr. George Bannister, Mr. Henry Hills.

We beg to direct attention to the Rev. J. T. Hope's Tables of Intestinal Worms. Those Tables are published in our contemporary, the *Medical Gazette*. The object of the amiable and reverend author is an excellent one—to direct the attention of the profession to the history and characters of these worms, in order that pathology and entomological science may be both enriched by more extensive and more precise information respecting them.

It is gratifying to see members of the beneficent profession to which the Rev. J. Hope belongs, labouring, as becomes them, in extending the bounds of natural history. The medical and the clerical professions may be properly associated not only in many of their peculiar duties, but particularly in scientific labours and pursuits. The world of intelligence belongs in an especial manner to them both, and its object and pursuits are equally holy and ennobling. Philosophy extends her hand to the physician and divine, and invites them to retire to her charming bowers, from the fatigues and the cares of their more worldly avocations. We should wish to see this union rivetted, and the republic of science consolidated, as it promises to be, by the cordial co-operation of those professions which are more especially her own.

CONTENTS

OF THE

MEDICO-CHIRURGICAL REVIEW,

No. LIV. OCTOBER 1, 1837.

[BEING No. XIV. OF A DECENNIAL SERIES.]

REVIEWS

I.

I. Le Systeme Lymphatique. Par M. G. BRESCHET	} 297
II. Nouvelles Recherches sur la Structure de la Peau. Par M. G. BRESCHET	
1. The Anatomy of the Lymphatic System	298
2. The Anatomy of the Skin	308
3. On the Diaphnogenous Apparatus, and on the Sudoriferous or Hydrophorous Canals	313
4. On the Cutaneous Apparatus of Inhalation	314
5. On the Blennogenous Apparatus—the Source of the Mucous Matter	316
a. The Blennogenous Apparatus	316
b. On the Chromatogenous Apparatus	317
c. Excreted Products of the Apparatus	317
6. On the Chromatogenous Apparatus, or Organs of the Secretion and Excretion of the coloring Matter	319

II.

Surgical Observations, with Cases and Operations. By J. C. WARREN, M.D.	322
1. Epidermoid Tumors	325
2. Dermoid Tumors	325
a. Lepoides	325
b. Keloides	326
c. Eiloides	327
3. Tumors of the Cellular Membrane	327
4. Muscular Tumors	328
a. Encysted Muscular Melanosis	329
b. Scirrhou Muscular Tumor	329
c. Tumors of the Tendons	332
5. Periosteal Tumors	335
6. Osscous Tumors	336
a. Ostco-Sarcoma	338

III.

I. Medico-Chirurgical Transactions. Vol. XX.	
II. The Transactions of the Provincial Medical and Surgical Association. Vol. V.	} 345
III. Elements of Medicine. Vol. I. On Morbid Poisons. By R. WILLIAMS, M.D.	
1. Observations on Vascular Appearances of Mucous and Serous Membranes, as indicative of Inflammation. By J. YELLOWLY, M.D.	345
2. On the Effects of Morbid Poisons	351
a. On the Treatment of Injuries received in Dissection. By R. A. STAFFORD, Esq.	351

- b. Case of Glanders in the Human Subject. By JAMES JOHNSTONE, M.D. 359
 c. On the Poison of Measles. By R. WILLIAMS, M.D. . . . 361
 d. On the Poison of Erysipelas 364
 3. On the Use of the Bromide of Potassium in Diseases of the Spleen . 370
 4. Case in which the Memory of Language was lost. By T. SHAPTER, M.D. 372

IV.

- Observations on the Topography, Climate, and Prevalent Diseases of the Island of Jersey. By G. S. HOOPER, M.D. 377
 1. Diseases of the Island 377

V.

ON THE USE OF MERCURY IN THE VENEREAL DISEASE.

- I. Practical Observations on the Venereal Disease, and on the Use of Mercury. }
 By ABRAHAM COLLES, M.D. } 379
 II. The Works of John Hunter, F.R.S. Edited by J. F. PALMER. Vol. II. }
 III. Historical and Medical Researches into the Origin, Nature, and Treatment of }
 Syphilis. By M. DEVERGIE } 390
 1. Natural History of Syphilis 390
 2. On Chancre 397

VI.

RECENT WORKS ON THE PRACTICE OF MEDICINE.

- I. Principles of the Theory and Practice of Medicine. By MARSHALL HALL, M.D. } 403
 II. Elements of the Practice of Physic. By D. CRAIGIE, M.D. . . . }

VII.

- The Spas of Germany. By DR. GRANVILLE 422
 1. Baden Baden, 423—2. Wildbad, 424—3. Bad Gastein, 426—4. Carlsbad, 428—
 5. Marienbad, 432—6. Egra, 431—7. Pullna, 436—8. Tœplitz, 436—9. Leiben-
 stein, 437—10. Kissengen, 437—11. Weisbaden, 438—12. Schlangenbad, 439—
 13. Schwalbach, 440—14. Ems, 440.

VIII.

VEGETABLE MORPHOLOGY.

- I. An Introduction to Botany. By JOHN LINDLEY, F.R.S. . . . } 442
 II. Nouveau Systeme de Physiologie Vegetale et de Botanique. Par F. V. RASPAIL }

IX.

TYPHOID FEVER.

- I. Clinique Medicale de l'Hôpital de la Charité. Par M. BOUILLAUD . . . }
 II. Anatomical, Pathological, and Therapeutic Researches on Gastro-Enteritis. By } 450
 P. C. LOUIS }

PERISCOPE.

BIBLIOGRAPHICAL NOTICES.

1. The Cyclopædiæ.
 1. The Cyclopædia of Practical Surgery. Edited by W. B. Costello, M.D. Part II. 459
 2. The Cyclopædia of Anatomy and Physiology. Edited by R. Todd, M.D. Part XI. 464
 A. New Mode of Treatment for Ulcers and Granulating Wounds. By F. C. Skey, F.R.S. 466

2. Natural History.
 1. A History of British Quadrupeds. By Thomas Bell, F.R.S. 468
 2. A History of British Birds. By W. Yarrell, F.L.S. 468
3. On the Nature and Treatment of Diseases of the Heart. By J. Wardrop, M.D. 469

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS.

1. The Present State of Pharmacy in Germany 473
2. Case of Hernia Pericardii. By T. Hart, M.D. 476
3. On the Possibility of transplanting the Cornea for Blindness. By Dr. Bigger . 477
4. On Violent Pulsations in the Epigastric Region. By W. Faussett, A.B. . . . 480
5. Medicine in America 482
 1. Cases of Aneurysm cured by Operation. By Dr. Morrison 482
 - A. Femoral Aneurysm 482
 - B. Successful Operation beyond the Aneurysm 482
 2. Observations on the Treatment of Puerperal Convulsions. By W. Denny, M.D. 485
 3. Supposed new view of certain Dislocations. By S. Annan, M.D. 487
 - A. Reduction of a Dislocation of the Head of the Humerus into the Axilla 487
 - B. New Mode of Reducing a Dislocation into the Ischiatic Notches . . . 488
 4. Successful Ligature of the Internal Iliac Artery. By V. Mott, M.D. 490
 5. Case of Congenital Enlargement of the Tongue removed by Operation. By T. Harris, M.D. 490
 6. Delivery of a Fœtus through the Abdominal Parietes. By S. H. Harris, M.D. 492
 7. Diseases of the Sandwich Islands 493
 8. Case of Worms in the Urinary Bladder 495
6. Preparation of Phloridzine 495
7. Opinions of Napoleon on Medical Education 496
8. Report on the National Vaccine Establishment 497
9. Vicarious Menstruation from the Skin of the Thorax 497
10. Substitute for the Liquor Opii Sedativus of Battley 498
11. On Poisoning with the Esculent Mushroom. By D. Edwards, Esq. 498
12. Cure of Club Foot by Division of the Tendo Achillis 499
13. Spontaneous Cure of a gelatinous Polypus Nasi 500
14. Opinions on the Contagion of Glanders 500
15. Dr. Graves on the Pathology of Phlegmasia Dolens 500

SPIRIT OF THE FOREIGN PERIODICALS, &c.

1. Memoir on some remarkable Cases of Organic Anomalies 502
 - A. Urinary Apparatus 503
 - B. Generative Apparatus 504
 - C. Lateral Transposition of the Thoracic and Abdominal Viscera 506
2. Psychological Physiology.
 1. Relation of the Weight of the Cerebral Mass with the Development of Intelligence 507
3. On the Treatment of Typhoid Fever by Purgatives 510
4. Discussion on the Nature and Treatment of Glanders in Man 518
5. On the Endermic and Inoculative Method of Treatment 524
6. On the Action of certain Medicines on the Heart 526
 - A. Assafoetida 526
 - B. Camphor 526
 - C. Digitalis 527
 - D. Polygala Senega 527
7. Observations on the Cancrum Oris of Children 527
8. General Remarks on the Diseases of Children. By M. Baudelocque 530
9. On the Treatment of Gastralgia. By Dr. Lombard 532
10. Case of Abdominal Tumor which weighed 120 pounds 533
11. Ascites cured with the Inunction of Veratria Ointment 535
12. Report of M. Desportes on the Salpêtrière and Bicêtre Lunatic Hospitals . 535
13. Statistical Reports of Hospitals 539
14. Case of confirmed Insanity cured by a sudden Fright 540

15. Cases of hæmorrhagic Diathesis. By Professor Kuhl	540
16. Two Cases, in which it is alleged that a Lizard was vomited from the Intestines	541
17. Employment of a Stream of Cold Water, in Cases of Wounds and other Injuries	543
18. Reduction of an old Dislocation of a Shoulder—Death the same day	545
19. Curious Case of Simultaneous Dislocation of both Thighs	546
20. Variety of Club-foot treated by Division of the Tendo Achillis	546
21. Wry-neck—Section of the Sterno-mastoid Muscle	548
22. Successful Case of Amputation at the Hip-joint	549
23. Cases of Amputation	550
24. Radical Cure of Varicose Veins and of Herniæ by Acupuncture	551
25. Spontaneous Gangrene of the Leg—Amputation before the Line of Separation was established	552

CLINICAL REVIEW, AND HOSPITAL REPORTS.

1. Fever in America and Ireland.

PHILADELPHIA HOSPITAL.

1. Difference between Dothinentitis and the Typhus Fever which occurred at Philadelphia in 1836. By Dr. Gerhard 553

ST. JOHN'S FEVER HOSPITAL.

2. Report of St. John's Fever and Lock Hospitals, Limerick. By Dr. Geary 557

NAVAN FEVER HOSPITAL.

3. Observations on Certain Remedies in Typhus Fever. By Dr. Hudson 559
4. On the Cause of Tympanitic Sound on Percussion over an inflamed Lung. By Dr. Hudson 561

ST. GEORGE'S HOSPITAL.

2. Quarterly Report of Patients treated in St. George's Hospital. By Dr. Seymour 562

MISCELLANIES.

1. British Association 569
 1. Section E.—Anatomy and Medicine 570
 - a. On the Motions and Sounds of the Heart, 2nd Report 571
 - b. On the Physical and Chemical Characters of Expectoration in different Diseases of the Lungs. By Mr. Brett 573
 - c. On the Cause of Death from a blow on the Stomach. By Dr. Holland 576
 - d. Experimental Investigation into the Glosso-pharyngeal, Pneumogastric, and Spinal Accessory Nerves. By Dr. John Reid 578
 - e. Observations on the Structure of the Sacrum in Man and some of the Lower Classes of Animals. By Mr. Carlisle 580
 - f. On the Epidemic Cholera. By Dr. Black 580
 - g. Dysmenorrhea. By Dr. Mackintosh 582
 - h. Experiments on the Connexion between Nerves and Muscles. By Dr. Madden 583
 - i. On the Order of the Succession of the Motions of the Heart. By Dr. O'Bryan Bellingham 583
 - j. Observations on the Disease called Cocobæ by the Africans. By Dr. J. Hancock 584
2. Transposition of the Viscera 584
3. Sudden and Fatal Hæmoptysis 585

OBITUARY.

Death of Mr. Lynn	586
Death of Rason	586
BIBLIOGRAPHICAL RECORD	587

EXTRA-LIMITES.

PHYSIOLOGICAL EFFECTS OF RAIL-ROAD TRAVELLING.

- The Railroad Steamer. By Dr. James Johnson 589

THE
Medico-Chirurgical Review,

No. LIV.

[No. 14 of a Decennial Series.]

JULY 1, to OCTOBER 1, 1837.

DESCRIPTIVE ANATOMY.

- I. LE SYSTEME LYMPHATIQUE. Par. M. G. BRESCHET. Planches 4. 8vo., Paris, 1836. Bailliére.
THE LYMPHATIC SYSTEM. By G. BRESCHET, 4 Plates,
- II. NOUVELLES RECHERCHES SUR LA STRUCTURE DE LA PEAU. Par M. G. BRESCHET. Planches 3. 8vo., Paris, 1835. Bailliére.
RESEARCHES ON THE STRUCTURE OF THE SKIN. By M. G. BRESCHET. 3 Plates.

It is a sign of a healthy condition of the professional mind, when we observe a disposition to cultivate anatomy, and to extend the knowledge of its facts. The accurate determination of the latter is so inseparably connected with the science of medicine, that the increase of our acquaintance with them must necessarily lead to its improvement.

The diffusion of such knowledge is a great desideratum. It is not, however, very readily effected, for the majority of persons are prone to seek for the minimum, not the maximum, of attainments which will keep them afloat in their respective occupations, and far too many medical men, who have studied anatomy as a task, are apt to regard it with disgust, and to hug the idea that a very small quantum of it will serve them in the practical part of their profession.

It is not necessary for us to combat such a notion with elaborate arguments, nor to bring the heavy battery of reason against so obvious a fallacy. One consideration is sufficient of itself to overthrow it. The signs and symptoms of disease are no more than altered states or functions of the organs or the tissues:—it therefore follows as a necessary consequence, that the more intimately we understand the normal condition of those tissues and organs, the more accurately we shall understand their disordered states, the more accurately, in short, we shall understand disease.

If the man who is content to be a routinist, could calculate on always meeting with routine cases, there might be some sort of petty and contemptible rationality in his election. But, in the simplest case, contingencies may supervene, and complications, more or less obscure, may arise. Will

any man of honour, will any man of prudence, voluntarily set out in life, with the determination to do just as little as possible, towards making himself master of such complications and contingencies?

If we appeal to experience, every-day experience, we must be satisfied of the *de facto* superiority in practice of the surgeon or physician who is thoroughly versed in anatomy. Of course we do not say that an excellent anatomist may not be a deplorable practitioner. That is not the point. The position we contend for is, that, *cæteris paribus*, the better the anatomist the better the practitioner, and that the reasonable cultivation of anatomy does not tend in any way to incapacitate persons for practical pursuits. We admit that men who spend all their time in the dissecting-room, who think of little else, work at nothing else—we admit that such men are conversant only with the dead, and cannot be expected to be otherwise; but that is not the kind of anatomical study we are talking of. We wish every surgeon and physician to continue to take an interest in anatomy after his collegiate examinations are over—to look at the best anatomical works—to keep himself at the level of advancing anatomical knowledge. We do not urge the high consideration, that it is pleasant to feel we are not mere laggards in science, but merely hint the more homely, but perhaps the not less potent one, that it is useful to know as much as other people.

I. THE ANATOMY OF THE LYMPHATIC SYSTEM.

It has been generally stated in most works on descriptive anatomy that lymphatic vessels may be discovered in every part of the human body, except in the substance of the brain, spinal marrow, eye and placenta. The recent researches however of M. Fohmann, Panizza, Arnold, and some other continental anatomists, have shewn that this assertion is not strictly correct, and that it is to be received with certain limitations. The first of these authors has described and represented with great care numerous lymphatics in the membranes and on the surface of the brain, and also those of the umbilical cord and of the placenta. Arnold says that he has detected lymphatic vessels in several of the tissues of the eye; but this announcement has not certainly been confirmed by the dissections of others; and, in the opinion of many, even the authority of M. Fohmann has not been deemed sufficient to establish the existence of lymphatics in the placenta. M. Panizza, for example, certainly one of the ablest writers on the absorbent system, confesses that he is not satisfied of the truth of this statement.

Leaving therefore these points of dispute, we shall now very briefly detail some of the most interesting and best ascertained facts, relative to the lymphatic system.

According to M. Breschet, the cellular tissue is the principal source or groundwork whence the lymphatic vessels take their origin; it is the soil, so to speak, in which their extreme roots strike and ramify.

If we observe lymphatics proceeding from, and seeming to arise out of, the substance of many organs of the body, it is because cellular tissue constitutes the basis and elementary component of these organs; and hence we find that those very parts, into which the cellular tissue does not enter, are destitute of these vessels—as, for example, the nails, horns, the epidermis,

the hair, and the enamel of the teeth. Mascagni long ago announced the opinion that all the white tissues of the body are actually formed or composed of innumerable lymphatic vessels—an opinion too vague and general to be received as quite correct—and more lately M. Cruveilhier has stated in his descriptive anatomy that he deems it very probable that the cellular tissue and serous membranes primarily and chiefly consist of a meshwork of these vessels.

There are two methods in which the lymphatics of serous membranes may be exhibited—either by inserting the sharp point of the usual apparatus, used for injecting these vessels and filled with mercury, into the substance of the membrane, or by introducing some coloured liquid into the cavity lined by it, during life, or immediately after death. Those of synovial membranes may be discovered in the same manner. The lymphatics of the dermoid tissue have of late years been examined with great care by Lauth, Fohmann, and by M. Breschet himself. He has described them minutely in his work on the structure of the skin published at Paris two years ago. They are exceedingly numerous, and appear to be, for the greatest part, more superficial than the vascular capillaries. No trace however of any open orifices on the surface of the dermis can be discovered, even with a strong magnifying glass. Some anatomists indeed have stated that they have observed globules of the mercury ooze out, when pressure was made on the skin at the same time; but this phenomenon is ascribed by Breschet and others to rupture of the lymphatics, and not to simple exsudation from them. He contends therefore that there are no discoverable open extremities of the lymphatics on the surface either of the skin, or indeed of any other tissue of the body.

M. Panizza takes the same view of the subject. He details several experiments, in which he made a very successful injection of the superficial lymphatic plexus of the glans penis, and wherein, on carefully removing the epithelium, no trace of any exsuded globule of mercury could be found.

The mucous membranes, like the skin, give rise to numerous lymphatics; so numerous indeed, that they, along with minute blood-vessels and nerves, appear to constitute the villousities on their surface. Although no open orifices have ever been discovered in mucous membranes, MM. Cruveilhier and Magendie are of opinion that such do really exist.

They allude to the results of several experiments, in which the abdomen of a living sheep was opened, and milk introduced into a part of the gut. When the distended portion of the gut was compressed with the hand, the lacteals were immediately filled with the white fluid. M. Breschet however is not satisfied with the details of these experiments; and he very justly says that all forcible compression of the gut should be avoided in conducting such experiments, as it may possibly cause a rupture or laceration of the extreme ends of the tender vessels. However this may be, no person has ever seen the open orifices of the lacteals on the surface of the villi; and our author is therefore quite correct in condemning the practice of assuming the rationale of physiological phenomena, merely because these may be explained in a particular manner. It is exceedingly probable that imbibition, or some similar process, has something to do with the introduction of the chyle and lymph into the extreme absorbents. But in truth all that we

know with *certainly* is, that we *know* nothing *certain* on the subject. It remains a problem for future anatomists to solve.

Equally gratuitous is the doctrine, that the lymphatics are continuous with, and are derived from, the extreme capillary branches of the blood-vessels. It is well known to anatomists that, by pushing a fine injection into an arterial trunk, the lymphatics of the part sometimes receive a portion of the injection. This experiment has been deemed quite sufficient by many writers to establish the reality of a direct inosculation of the two sets of vessels; nay Lippi has gone so far as even to represent such a connexion in one of his engravings.

M. Breschet however, and, we believe that we may add, almost all the best anatomists of the present day do not admit the truth of this doctrine. They attribute the passage of the injection in the above experiment to extravasation from the minute arteries, and to consecutive absorption or rather impulsion of it into the lymphatics. Our author closes his remarks on this subject by adopting the opinion of Panizza, that "anatomy has not hitherto succeeded in determining, with physical certainty, in what relation the sanguiferous and lymphatic systems stand to each other, at their extreme ramifications." If we suppose that the cellular tissue itself is in fact made up of a meshwork of lymphatic vessels, we perhaps get rid of the difficulty; but even then we cannot state, with any degree of precision, in what manner the lymph and chyle do enter into the vessels themselves. We know that the lymph and chyle contain numerous globules of considerable size, larger even than those of the blood. The question comes to be, How do those gain admission? or are we to suppose that they are developed within the tubes of the lymphatics themselves?

We thus encounter fresh difficulties at every part of the investigation; and it is therefore much wiser to confess our total ignorance of the subject.

Nothing is of greater importance in all physical researches than to acquire exactitude at every step of our investigation. Whenever we begin to frame hypotheses, unsupported by actual observation, merely for the purpose of giving a probable explanation of certain phenomena, we are almost sure to be bewildered in the mazes of our own making. We shall therefore leave the subject, on which we have been discoursing above, merely repeating our own former statement that no anatomist has yet *seen* any open orifices of lymphatics in any structure of the body, either in man or in the lower tribes of animals.

We now proceed to another topic, in the history of the human lymphatic system, which has given rise to much difference of opinion. We have confessed our ignorance of the relation which exists between the capillaries of the sanguiferous and of the lymphatic systems. It now remains to be determined what knowledge we have respecting the connexion between the larger vessels of these two systems.

It has often been conjectured by anatomists, that there are some other communications between the lymphatics and the veins, in the human body, in addition to the thoracic duct, and the lymphatic trunk which proceeds from the right arm and usually terminates in the right subclavian vein. That such communications do exist in the lower classes of vertebrate animals is proved beyond doubt by the researches of Fohmann, Lauth, Panizza and Muller. They are obvious on the intestines and the mesentery in fishes,

on the thigh in the frog, and on the lower extremities and the intestinal canal in birds. No such communications however are discoverable in any part of Mammals. Still the question has often been mooted whether any inosculation between the two sets of vessels, besides those above mentioned, do really exist in this class of animals.

Many of the older anatomists believed, that they had traced lymphatics to their terminations, not only in the vena cava, and v. azygos, but also in the hypogastric and lumbar veins; and even as late as 1825, M. Lippi of Florence has maintained that the lymphatics of the digestive organs in men, as well as in other mammals and also in birds, communicate directly with the venæ cavæ, the vena portæ, the vena azygos, and with the renal and internal pudic veins. But all the best authorities, the more ancient as well as the very recent, have denied the accuracy of these statements; and it has been clearly proved that the error of Lippi has arisen from his mistaking branches of veins themselves for lymphatic vessels. Fohmann says distinctly that, during five years most laborious investigation of the absorbents, he has never detected any direct communication between the veins and the lymphatics, except in the glands, (this, we shall afterwards mention, is a doctrine not admitted by all anatomists) and in the immediate neighbourhood of the termination of the thoracic duct.

But although no communication can be traced with the larger veins, some authors have contended that the lymphatics inosculate directly with the smaller venous branches in different parts, and especially with those of the mesentery.

M. M. Fohmann and Panizza however expressly assert that they have in no instance been able to detect such a connexion.

The only other hypothesis on the subject of venous and lymphatic communication, which remains to be mentioned, is that which supposes that the two sets of vessels inosculate with each other in the substance of the absorbent glands. This opinion was adopted by the first Meckel, and also by Caldani.

Monro Secundus and Mascagni were opposed to it; but, of recent years, it has been again very ably advocated by Fohmann, Tiedmann, Lauth and Panizza.

It has been long known that, when mercury is injected into those lymphatics which proceed on to a gland (*vasa inferentia*), part of it passes more or less freely into the neighbouring veins, as well as into the lymphatics leading out of the gland (*vasa efferentia*). This transmission is sometimes so very free, that it is actually necessary to put a ligature around the veins, in order that the lymphatics may be well filled.

Various explanations have been given of this occurrence. Some writers have supposed that it was always the result of rupture of the glandular tissue; others have attributed it to a direct communication between the two sets of vessels; and lastly it has been conjectured that it might be owing to a mere transudation from one set of vessels to another.

It cannot indeed be doubted that, in not a few of the experiments, there has been an actual rupture of the substance, of the gland, and that the quicksilver has escaped into the cellular substance, and been forced into the lacerated vessels. But this has certainly not been the case in all. The greatest delicacy has been used by the anatomists last mentioned to avoid

all force or compression in their experiments; and we cannot therefore fairly presume that extravasation of the mercury has always taken place. No traces of such extravasation have been observed; and moreover it has been often remarked that the veins were filled with the quicksilver even before the lymphatics, which issued from the gland, were injected. It may also be added, that, if an extravasation had occurred, we might reasonably expect that the small arteries as well as the veins should receive a portion of the injection; and yet this is never the case. M. Fohmann considers these arguments quite conclusive; and he has supported with great ability the doctrine, that there is in truth a direct communication between the lymphatics and veins of an absorbent gland. It must however be admitted that although there are some very plausible arguments in favour of this supposition, no direct observations can be adduced in its support. M. Panizza has mentioned one fact which seems to be very unfavourable to it. He says that he has never succeeded in injecting the lymphatics, when he reversed the mode of performing the experiment—viz. That, when the mercury was injected by the veins, none ever entered the lymphatics. This result might certainly have been expected, if there is really so direct a communication between the two sets of vessels, as M. Fohmann maintains.

Panizza therefore and Muller also are inclined to believe that the passage of the mercury, in the substance of the absorbent glands, from the lymphatics into the veins, is probably effected by means of minute pores in the sides of the vessels, analogous to those which permit the atmospheric air to act upon the blood in the pulmonary cells.

Breschet however, without giving a decided opinion, appears to lean to M. Fohmann's hypothesis that there is a direct communication between the lymphatics and the minute veins within the substance of the absorbent glands—a doctrine that receives considerable support from the results of comparative anatomy, and also from the carefully performed experiments recorded by Meckel, Fohmann, and many others.

Whatever view we take of this subject, there is every reason to believe that during life fluids may pass somehow or other from the lymphatics into the veins of the glands. If we admit this doctrine, we can readily understand in what manner certain substances may pass very quickly from the stomach and bowels into the mass of circulating blood, and be appreciable at different emunctories, within a very short time after they have been introduced into the alimentary canal.

We now proceed to examine the development of the lymphatic vessels in the different classes of animals; and we shall here find that a knowledge of comparative anatomy is quite necessary to a correct understanding of the organization and functions of the human body.

The absorbent system, as indeed all the other systems of the body, is more extensively developed and more complicated in the higher animals, than in those lower in the scale. In man it reaches its maximum of development. We shall briefly review the structure of this system in the different orders of vertebrate animals; premising that no very distinct traces of its existence have been discovered in any of the invertebrate class.

In Fishes, the lymphatics were discovered and very accurately described by Dr. Monro 2ndus, and by Mr. Hewson. The study of this branch of

comparative anatomy has of late years been admirably prosecuted by M. Fohmann, whose work (*Das Saugader-system der Weichthiere*, 1827) is illustrated by most beautiful engravings. The lymphatics of fishes have no valves, nor are there any glands connected with them. They form numerous plexuses; the most important of which is situated between the mucous and muscular coats of the intestinal canal, and terminate in a large reservoir placed at the right side of the cardia. From this point proceed other plexuses, which at length reach and open into the jugular vein. At numerous other points, however, a communication may be readily traced between the lymphatic and venous systems. The absence of lymphatic glands in fishes seems to be compensated for by some remarkable dilatations of the vessels themselves, in the middle of those meshes or plexuses, which they form in different parts.

In *Reptiles* also we cannot discover any lymphatic glands; but the vessels are certainly provided with valves—few however, and so incomplete that they do not prevent injections to pass freely from the trunks into the smaller branches.

According to Carus and others, the lymphatics of the inferior region of the body unite in a common reservoir, whence proceeds a double plexus, which then forms a sort of membranous sheath around the descending aorta, and, communicating superiorly with the plexus of the neck, terminates at length in the two jugular veins. What is most remarkable in this class of animals is the existence of pulsatory vesicles, or, as it were, hearts, along the course of the lymphatic vessels. This very curious discovery was made, about nearly the same time, by Muller and Panizza. Muller found in frogs and toads two pairs; one under the skin in the sciatic region, and the other more deeply situated upon the third cervical vertebra. Their pulsations, independent of those of the heart, do not seem to be at all isochronous. The inferior set discharge their lymph into a branch of the sciatic vein, and the upper set into a branch of the jugular vein.

Panizza has discovered these pulsating lymphatic vesicles in several of the serpent tribe. He found that they exhibited in the living animal an alternate expansion and contraction, analogous to the diastole and systole of the heart; and that the pulsations were not synchronous either with those of this organ, or with the movements of respiration. If they were pricked during their contraction, a reddish fluid was observed to flow out. When the vein, with which one of these vesicles communicated, was obstructed, it (the vesicle) remained distended. It was quite evident that the pulsatory movements of these lymphatic vesicles were independent of the action of the heart or arteries, as they were found to continue after the extirpation of the heart and the division of the arterial trunks.

The lymphatic system in *Birds* was discovered by Hunter, and has since his time been examined with great care by Hewson, Tiedemann and Lauth. The valves of their lymphatics are very imperfect; but in this class of animals we first discover rudiments of glands along the course of the vessels in the neck, and also at the basis of the ventral aorta.

According to Tiedemann, these glands are more developed in aquatic than in terrestrial birds. Magendie has well described and figured those of the neck. In other parts of the body, we find, in place of absorbent glands, plexuses of vessels; the most considerable of which, situated near the cœliac

artery, gives off two canals. These terminate in the subclavian veins. Besides this communication of the lymphatics with the veins, there are several others, equally obvious to the naked eye, between these two systems.

In the class of the *Mammifera*, the lymphatic system acquires its highest degree of development and complexity. The trunks of the vessels are more numerous; their valves are more perfect; the plexuses are less in number; the glands are very much more frequent; and the communications—at least the visible ones—with the veins are reduced to a few points. Another peculiarity also is that the lymphatics are almost always arranged in two sets—the one superficial, the other deep-seated.

The lymphatic trunks are generally larger and more distinct in the lower *Mammifera*, than in man; and the absorbent glands are proportionally smaller. The mesenteric glands are much more detached from each other in all those animals whose intestines are very long, than in those whose intestines are very short. In the *Cetacea*, these glands present certain peculiarities which deserve to be noticed. The late Mr. Abernethy, in a paper printed in the *Philosophical Transactions* for 1796, has stated that, by injecting the mesenteric arteries, he discovered that a communication exists between these vessels and certain cavities in the middle of the mesenteric glands; and he also stated that the mercury passed from the lacteals into these glandular cavities. He says moreover that the cavities themselves communicate with each other, by means of lymphatic vessels.

M. Breschet, however, is not inclined to believe in the accuracy of these statements, although he confesses that he is not prepared to refute them by any observations of his own.

He sums up his description of the lymphatic system of the *Mammifera*, by the following general remark.

“In proportion as the animal organization becomes more complicated, the lymphatic system is perfected, and acquires, so to speak, a more independent existence; it gradually loses the cellular and plexiform appearance, and assumes that of a multitude of genuine tubes or canals; its valves develop themselves; its glands make their appearance and become gradually more large and numerous; finally, its connexions with the venous system are much fewer, and at length in men are reduced to those which are indispensable for the transmission of the lymph into the torrent of the circulation.”

Having thus shortly described the anatomy of the lymphatic system in the several classes of Vertebrate animals, we shall proceed to offer a few remarks on the functions which it is supposed to perform in the animal economy.

It is unnecessary to allude particularly to the opinions held by Swammerdam, Boerhave, Monro, and other anatomists, even after the discovery of the lymphatics, that the function of absorption was performed exclusively by the veins. The reasonings, which they adduced, were founded on false premises, and they cannot therefore much influence our speculations.

It is to the labours of the two Hunters that we are chiefly indebted for having proved, beyond the reach of doubt, that the chyle is taken up by the intestinal absorbents, and conveyed by them into the general mass of the circulation. Dr. William Hunter indeed was inclined, for many years afterwards, to admit the co operation of the veins in this important operation of life; but his younger brother, endowed with a bolder and more independent mind, maintained that this opinion was quite inaccurate. By a series of well

conceived experiments, he quite satisfied himself that the absorption of the chyle is performed exclusively by the lacteals. Having opened the abdomen of a living dog, and discovered those points where lacteals were full of milky chyle and others where the chyle was yet transparent, he took two portions of the intestine, and passed ligatures around each, after having tied the branches of the mesenteric arteries and veins which supplied them. He then introduced some milk into each portion. The lacteals of one of these continued to transmit a white fluid; and those of the other, which hitherto had been nearly pellucid, began to be filled with a similarly opaque fluid, while the blood drawn from the veins presented no traces of milk.

This experiment was repeated several times without tying the veins; and still the same results were uniformly obtained.

In a sheep, which had not taken food for several hours, the abdomen was opened. The lacteals were found full of a limpid transparent fluid. A solution of isinglass, coloured blue, was then injected into several folds of intestine; and these were then secured by ligatures at two points. Being replaced in the abdomen, and then examined some time afterwards, the lacteals presented a blue appearance; but the blood, which was drawn from the veins of the parts, exhibited no discolouration, even after it was permitted to coagulate.

These and similar experiments were repeated with various modifications by Hewson, Shelden, and Cruickshank; and the result of all was, that it was universally admitted as an established fact in physiology, that intestinal absorption was performed solely and exclusively by the lacteals.

Hitherto the attention of anatomists had been almost entirely directed to intestinal absorption; and induction only had led to the belief that the general absorbents of the body exercised a similarly exclusive function in other parts. Schreger indeed had attempted to prove the truth of this by direct experiments, wherein he exposed the limbs to various coloured and odoriferous solutions, and which in his opinion shewed that the substances were invariably absorbed by the lymphatics and never by the veins.

But as the facts which he states, and the conclusions which he draws from them are contradicted by the experience of some of the ablest anatomists of the present day, it is not worth while to narrate them. It is to be observed, however, that they obtained such universal credit, that they induced the distinguished Mascagni and others to admit their unexceptionable accuracy. M. Lauth, one of the ablest physiologists of the present Strasbourg School of Medicine, has given new force to them, by stating that injections of ink into the thoracic cavities of dogs, recently dead, are always followed by the appearance of detached dark spots, or of distinct and separate absorbent trunks filled with dark fluid, on the surface of the pleuræ.

For many years the doctrine, that the lymphatics were the sole and exclusive vessels for absorption, was so undisputed, that it seemed that physiologists were scarcely aware that any other opinion had ever been held by their predecessors. Such was the state of opinion till the year 1809, when Magendie read to the French Institute his celebrated Memoir to prove that "the lymphatic vessels are not the only route by which foreign matters are admitted into the sanguiferous circulation." We shall briefly allude to a few of his experiments. A portion of gut in a living dog was tied, and then detached from all its connexions, save only from a single mesenteric artery

and vein by which it hung suspended, A small quantity of the Upas poison was then injected into its cavity, and the portion of the gut was then replaced in the abdomen. At the end of six minutes, the general effects of the poison had developed themselves in their full intensity, just as if the bowel had still retained all its ordinary connexions.

The thigh of a dog was detached from the trunk, leaving only the crural artery and vein undivided. These vessels were then opened, and a crow-quill was introduced into their tubes: they were next secured around the quills, each by two ligatures; and their coats were afterwards cut across between these. The only communication therefore now between the body and the severed limb was through the medium of the arterial and venous blood passing along the quills. When the Upas was inserted into the foot of the animal, its effects were observed to take place as speedily as if the limb had sustained no dismemberment. This experiment has been repeated by two German physiologists, Emmert and Rapp, and by several others, with the same results.

M. Westrumb found that, when he introduced a solution of ferro-cyanate of potassa into the stomach, traces of the salt were discoverable in the urine,* although none could be detected in the lymph or chyle. M. Fodéré performed a similar experiment on a portion of gut; and found, he says, that the mesenteric veins, as well as the lacteals, of the parts exhibited a blue colour, when the gut was inserted into a solution of sulphate of iron; but M. Kolk denies the accuracy of this assertion, and says that in his experiment the blue colour was observable only in the lacteals.

It would occupy far too much space to detail the opinions of all the authors, who have written on this subject since the date of Magendie's Memoir. Suffice it to say that M. M. Tiedemann and Gmelin, two of the most accurate enquirers of the present time, admit that many foreign substances, introduced into the intestines, are discoverable in the urine and also in the blood, although no traces of them are to be met with in the absorbents.

"If," says M. Breschet, "after all the facts now detailed, we must admit that the lymphatics seem to have very little action upon substances introduced

* The extreme rapidity, with which the transmission of soluble substances takes place through membranes, is well exemplified in the following experiment related by Muller in his Physiology.

He took a small flask filled with a solution of the cyanuret of potassa, and covered its mouth with a frog's bladder; he then very lightly wetted it with a solution of sulphate of iron, and immediately inverted the phial. A blue colour was perceptible in the course of a *second*.

Now a frog's bladder is very much thicker and less permeable than the villous coat of the intestines, which Muller estimates to be of extreme tenuity—not exceeding in thickness the 00174 of an inch. If we suppose that the complete circuit of the circulation is performed in two or three minutes, it is obvious that we are at once furnished with a rational interpretation of the great rapidity with which certain substances may be conveyed from the intestines to the remotest parts of the body, without having recourse to the old notion, recently revived by Sir E. Home and Lippi, that there are any direct channels between the alimentary tube and the urinary bladder.

from without (the chyle excepted), they most unquestionably exercise such a power over those which are generated in the body. The bile, for example, may be absorbed by them—a fact indisputably proved by the researches of the two physiologists named above.”

M. M. Foderé and Lauth have met with blood in absorbents; Magendie and a host of other physiologists have found purulent matter in their cavities; Sir A. Cooper discovered a white cerebriform substance in the thoracic duct of a man, who died of fungus hæmatodes of the testicle.

In concluding his review of the conflicting opinions on the subject of venous and lymphatic absorption, our author adds that the solution of the problem is perhaps less obscure, than has often been supposed. He supposes that the veins and absorbents communicate with each other in the substance of the glands, as they are seen to do in some of the lower vertebrate animals in various parts of the body. The chief point of doubt is, as to the manner in which this communication is effected. M. Breschet does not think that it can be by direct communication with each other by open mouths; but rather “*par une force absorbante, analogue à celle dont jouissent les racines lymphatiques, que les veines doivent absorber le contenu de ces derniers vaisseaux dans les glandes.*”*

In fine, he supposes that the veins of every part have the power of absorption, as well as the lymphatics; but he is unable to specify the limits and the circumstances in which each set of vessels exercises this function.

He alludes to a question of great obscurity, and which in all probability will always elude the search of our best-directed enquiries—viz. how and in what part are the globules of the chyle formed? We cannot suppose that they are already formed before the chyle is absorbed from the food, as they are known to be of considerable volume, and as no open mouths of the lacteals have ever been discovered in the villi of the intestines, even with the aid of the strongest magnifying glass. It is an utter loss of time to form mere idle conjectures on this subject. “*Ne craignons pas de dire,*” says M. Breschet, “*que l’on ignore complètement!*” There are many other points in the anatomy and physiology of the absorbent system, which are little, if at all, accurately understood; and we are therefore compelled to confess that we know but little, and that little only imperfectly, of one of the most important functions of animal life.

The following statement of the chief conclusions, to be drawn from the preceding remarks, may be useful to the reader.

1. In no part of the body have any open extremities or orifices of absorbents been discovered.
2. No direct communication between the arterial or venous capillaries and the absorbent vessels has been distinctly proved to exist.
3. Fohmann and some other anatomists assert that a communication exists between the absorbent vessels and the veins, within the substance of the alveolar glands. This doctrine, although probable, is not admitted by all.

* The doctrine—that there is a free communication between the veins and the lymphatics in the substance of the absorbent glands—is maintained by that admirable anatomist, M. Fohmann; and certainly the comparative anatomy of the lymphatic system, as we have described above, affords considerable shew of confirmation to it.

4. The absorbents in fishes are not provided with valves, or with glands. They communicate freely, in different parts of the body, with the adjacent larger veins.

5. In reptiles the lymphatics have imperfect valves; but there are no glands. We discover however along their course certain dilatations which are seen during life to pulsate, and which appear to force the lymph into the adjacent veins.

6. Rudiments of absorbent glands are discoverable in birds; and in them there are several other direct communications between the lymphatics and the veins, besides the chief one at the root of the neck.

7. In mammals, the lymphatic system is more complicated; the valves are more numerous and more perfect; the glands are more numerous; and the communications between the lymphatic vessels and the veins appear to be fewer in number and much less direct.

8. The veins seem to have the power of absorbing foreign substances admitted into the body, as well as the lymphatics; but it is still doubtful whether they ever absorb chyle or any other fluid generated within the system.

II. THE ANATOMY OF THE SKIN.

The next of the works upon our list is still from the pen of M. Breschet, an able anatomist—and on the structure of the skin, an important subject. Unfortunately its difficulty is commensurate with its importance, and the discrepancies of observers have corresponded with its difficulties.

M. Breschet, and his colleague in the work, M. Roussel de Vauzème, have used all the means in their power for arriving at the truth. Time has been consumed and labour expended on an inquiry which all must acknowledge to be intricate, and which they confess to be on their part incomplete. They deprecate criticism, indeed they may be said to defy it, for they protest in limine that they will pay attention to no strictures but to those which emanate from persons who have made the structure of the skin a subject of their special investigation. This is a bold, but perhaps it is not altogether an unexceptionable determination.

They treat their subject in the following order. They first give a summary of the constituent parts of the skin, and then examine each in detail.*

1. CONSTITUENT PARTS OF THE SKIN.

1. The *Derma* (cutis vera—corium—true skin)—a dense, fibrous, cellular web, enveloping and protecting the sanguineous capillaries, the lymphatics, the nerves, and the other organs contained in the skin.

2. The *Papillæ*—the organs of touch, in which the nerves are finally dis-

* We shall chiefly select such facts, or such opinions for notice, as possess some claim to novelty, or are otherwise important. We must presume that our readers have read Beclard's, or Craigie's, or some other work, which contains what is generally known or believed in regard to the cutaneous tissue.

tributed. They are small nipple-like projections, slightly curved, their spices blunted, and concealed beneath several envelopes.

3. The *Diapnogenous Apparatus*, (the organs of the secretion and excretion of the sweat—from διαπνοή, transpiratio perspiratio)—is composed of a glandular parenchyma, and of *sudoriferous* or *hydrophorous* canals.*

The parenchymatous or secreting organ is enclosed in the derma, and gives origin to the excreting canals; the latter are of a spiral form, pass between the papillæ, and open obliquely on the external surface of the epidermis.

4. *Apparatus of Inhalation, or Absorbent Canals*. These resemble, in many respects, the lymphatic vessels. They are situated in the corpus mucosum, which forms the most external layer of the skin, for the cuticle or epidermis is only a dependence of the mucous body. The inhalent canals appear to be unprovided with mouths or with absorbent openings. They commence in the most superficial layer of the cuticle, but their mode of origin is very difficult to be determined. By their other extremity they communicate with a net-work of vessels, which our authors believe to be lymphatics mixed with veins.

5. *The organs which form the Mucous Matter, or the Blennogenous Apparatus*.† This is composed of a glandular parenchyma, or organ of secretion, situated in the thickness of the derma—and of excreting canals, which issue from the preceding organ, and deposit the mucous matter between the papillæ.

6. *Chromatogenous Apparatus, or that for producing the Colouring Matter*. This is composed of a glandular or secreting parenchyma, situated a little below the papillæ, and presenting particular excreting canals, which pour out on the surface of the derma the colouring principle. This mingles with the soft and diffuent mucous matter, and it is their mixture that produces the “pretended reticular body of Malpighi,” and the epidermis or cuticle. We must attribute to this double apparatus the production of horns scales, prickles, hairs, nails, hoofs, and so forth.

Our authors have ascertained, that of all the cutaneous expansion in man, the skin of the heel is the best adapted for anatomical examination, on account of the thickness of the derma and the mucous matter. To this part, therefore, their observations must be understood to apply. The anatomical causes of the difference displayed by different portions of the skin will be discussed at a future opportunity.

Such is the sort of table given by our authors of the anatomical elements which constitute the skin. The enumeration will at once convey to the well-informed anatomist the essential differences which exist between it and the ordinary descriptions of the cutaneous apparatus. On this point we need not dwell, but proceed to display the opinions of our authors in detail.

The body of the work is divided into six chapters. The first is on the derma—the second on the papillæ—the third on the diapnogenous apparatus—the fourth on the apparatus of inhalation—the fifth on the blennogenous apparatus, or organs which secrete the mucous and the horny matter—the

* From ἵδρας, sudor.

† From βλεννα, μύζα, mucus;

sixth on the chromatogenous apparatus, or organs for the secretion and excretion of the colouring matter. Appended to these chapters are some remarks on the pathology of the skin, and some conclusions.

I. ON THE DERMA.

On this head our authors say little that is new; and we shall confine ourselves to stating that the result of their observations amounts to this—that the derma is a membrane, the fibres of which, firmly interlaced with one another leave interstices, areolæ, or cellules, which protect and insulate a great number of organs. On its external surface it insensibly merges into a membrane, which appears to be confounded with the parenchyma of the colouring and papillary organs. The derma, according to our authors, is by no means the inextricable net-work of fibrous tissue which some authors have represented it to be. It contains and supports organs, the precise description of which will come by-and-bye.

In serpents, the derma has a remarkable disposition: it is raised into imbricated prominences, covered by a thin layer of epidermis, and their whole constitutes the scales. In fish, on the contrary, the surface of the derma is uniform, and the scales are entirely composed of horny matter.

II. ON THE NEUROTHELIC APPARATUS, OR THE PAPILLARY BODIES

There is no doubt that the filaments proceeding from the different nervous trunks in the subcutaneous cellular tissue divide to extreme minuteness on approaching the derma. However carefully we endeavour to dissect them, we most commonly lose them in the structure of the derma, by reason of *its* opacity and *their* delicacy. The only chance of distinguishing them, in the midst of the vascular net-work of the derma and of its excretory canals, is to observe very carefully the point where they enter and to which they tend, and with practice and dexterity the nervous filaments may be picked out as they approach the mucous body, where they are delicate, almost pulpy, and penetrate the base of the papillæ.

The papillæ themselves are ranged in rows, generally bifid or trifid, separated transversely by the interval in which the sudoriferous canals are lodged, and longitudinally by the grooves from which the horny or epidermic matter proceeds.* Their form is that of a small cone, the base of which is lost in the derma, while the summit ends in a blunt point. Each papilla penetrates the horny matter, as a sword enters its sheath, and the internal surface of the epidermis exactly represents, by its symmetrical depressions, the number and disposition of the papillæ.

The attachment of the papillæ to the derma is firmer than that to the

* The terms "mucous matter," "horny matter," are used almost indiscriminately, because the horny epidermis is supposed to be formed by a kind of inspissation of the external surface of the mucous matter. We beg our readers to bear this in mind when they find the term "horny matter" occur.

epidermis, so that if a little force is used, the papillæ separate from the latter, but remain in connexion with the former.

The direction of the papillæ in the epidermis is oblique, and slightly inclined. Besides a sheath which they get from the derma, the horny matter supplies them also with a sheath, which covers them in the manner of a hood. This is very dense in the heel. The summit of the papillæ is not perforated by any opening.

Our authors refer to the structure of the papillæ in the whale—which they say resemble those of man so closely as to make the same description applicable to both—as exhibiting their form and structure on an intelligible scale.

The papillæ of the whale, then spring from the derma in innumerable quantities, piercing the horny matter like a sieve, or rather making it resemble a series of organ pipes, perforated to give them passage.

Their length varies with the thickness of the skin in the different regions of the same animal, or in animals of different species.

The nervous twigs, though united sometimes in twos and threes on a common base, are always contained in a particular sheath furnished by the horny matter which is moulded on them. In its thickest part, the body of the nerve presents across the neurilema slight undulated striæ, which proceed from the base, become less distinct, indeed become confused, and wind to a kind of button-like termination, where they appear to unite in concentric semi-circles. This surface is smooth and uniform, and has no communication with neighbouring parts. Examination under the microscope, or in any other manner, discovers in the papillæ a white dense tissue, more easily torn than broken, analogous in all respects to the nervous. It is not possible to separate into fasciculi the striæ or undulated lines apparent on the exterior; but our authors have distinguished the opening of a nutritious vessel in the interior. In the papillæ of man they have found two, which appear to unite and form an arch. These vessels are distinctly perceived, when the papillæ are injected, and divided by a transverse section. Besides this, in the centre of the neurilema or sheath, there appears to be a whitish pulpy substance.

From these circumstances discoverable in the papillæ of the whale, our authors think that it is not possible to entertain a doubt with respect either to the structure or the sensorial functions of these bodies.

The papillæ of the tongue are usually considered as peculiarly adapted for the sense of taste, and, consequently, as essentially nervous. But if the papillæ of the tongue of the ox be carefully examined, it will be found that they are enclosed in a horny case of greater or less thickness, which must be opposed to the exercise of such a function as that of taste. In the interstices, however, between the papillæ, there exist below a very fine epithelium true nervous papillæ (*tiges nerveuses*), similar, or nearly similar, to those which have been already described. The number of these latter is considerable, and it is in them, according to our authors, that the sense of taste exclusively resides. The common papillæ of the tongue are thought by them to be rather devoted to the function of touch, and even to that of triturating the finer molecules of the alimentary mass, and to render it, in consequence, of more easy appreciation by the papillæ of taste in their intervals. On this point our authors have not made up their minds, but intend to examine it with more attention hereafter.

On the whole, our authors conclude that it would be difficult to form any opinion but the one they have advanced on the nature of the tactile organ. On the surface of the derma there are elevations and intervening furrows. The former correspond to the nerves; the latter to the sudoriferous and inhalent canals, while the source of the horny matter is at their bottom. If the papillæ are not the organs of touch in the skin, what are?

The mode of termination of the nerves occupies the attention of our authors. We see the nerves under three points of view:—1, in the subcutaneous cellular tissue they have the usual characters of spinal nerves; 2, in the substance of the derma they become soft, flexuous, and capillary; 3, on the external surface of the derma they are transformed into symmetrical papillæ.

The question—What becomes of the neurilema of the nerves, on their entrance into the derma? naturally forms a subject of enquiry. Our authors suppose that the nerves become divested of it, and that it becomes blended with the derma. It is probable, however, that some sort of envelope still invests the nervous matter. What it is, if any, is dubious, nor is it necessary to follow our authors through their analogical speculations on the subject.

The essential organ of touch, then, consists of—

A. *A principal part*—the nerve of touch, terminating in a blunt point.

B. *Of accessory and protecting parts*—1, the derma, enclosing the nerve in its interior; 2, the papillary neurilema, furnished by the derma; 3, of a proper sheath, of peculiar and horny tissue; 4, of a fine layer of epidermis, covering the sheath, and indispensable for the exercise of the function of touch.

If any one of these conditions should be absent, or modified in a certain manner, the sense of touch cannot be exerted. It is evident that the derma, the dermic sheath, the proper sheath of epidermis, are to the nerves of touch what the complicated apparatuses of sight and hearing are to the optic and acoustic nerves.

If we compare the senses of taste and smelling with that of touch, we must perceive a greater delicacy in the apparatus of the former, and a predominance of the horny covering for the nervous terminations and expansions in the latter. Touch, too, is exercised by nervous bundles, enclosed in a tissue which insulates each, whilst the nerves of sight and hearing are expanded at their termination.

Our authors examine the hypotheses which are entertained with regard to the ultimate disposition of the nerves. We need not go into a subject so intricate, and, we may add, so unsatisfactory. Their observations on the papillæ bear out, in some measure, the conclusions of MM. Prévost and Dumas, who have conceived that nerves end in a loop. In the papillæ, the microscope, if it may be trusted, represents the nerves as preserving their filamentous disposition till they arrive at the top of the papilla with its horny covering, where they form concentric loops.

III. ON THE DIAPNOGENOUS APPARATUS, AND ON THE SUDORIFEROUS OR HIDROPHOROUS CANALS.

This exhalent apparatus occupies the thickness of the derma, and extends from its interior to the most superficial layer of the epidermis, where it presents an opening.

It is composed of a secreting parenchyma and of an excretory duct.

The parenchyma is situated in the thickness of the derma, and is surrounded with numerous capillaries attached to it. The form is that of a sac slightly swollen, from which issues a spiroid duct, which pursues its course in the derma, and issues from it by the infundibulum, or transverse fissure, situated between the papillæ; the duct then proceeds obliquely through the horny substance, in a corkscrew form, to without the epidermis, where its termination is indicated by a slight depression, or kind of pore, which may be remarked on the prominent epidermic lines.

The duct, as it passes through the epidermis, is rounded. The structure closely resembles that of the horny tissue, from which it is difficult to distinguish it. Its spiral form causes it to open externally by a very oblique opening, almost parallel to the plane of the skin; the opening itself closing by the mutual application of the superior and inferior walls of the tube. If we look at a drop of sweat as it exsudes, we shall see it preceded by an elevation of the epidermis, like a pump-valve.

If a piece of skin be macerated, so that the epidermis can be separated from the derma, we may see, with the naked eye, these excretory ducts indefinitely lengthen, like threads of spider's web. These are the spirals unrolled. When examined by the microscope, they present a surface covered with horny matter, which seems disposed in an imbricated manner on a central canal. We may distinguish very well, in this way, the issue of these canals from between the papillæ, and their penetration into the horny matter, which fills the funnel-like depressions between the papillæ. At their exit from the derma, the spiral tubes are accompanied by an inhalent vessel, which enters into the infundibular depression. The spiral, filiform tubes, when taken up with a pair of forceps, and placed upon a moistened piece of glass, roll up, and form a sort of homogeneous mucous mass, elastic and trembling like a piece of jelly. On stirring them, there are detached a great number of irregular polygonal scales. The sweat found in the secreting organ issues through the sinuosities of the excretory duct, which must also give exit to the insensible perspiration. Probably, say our authors, were we to watch the external orifice of one of these ducts when the body is heated in cold weather, we should find it smoke like the pipe of a stove.

This corkscrew disposition of the sudoriferous ducts in man, explains the anomaly of the epidermis transmitting the excretions, and yet appearing imperforate when examined separately. If the membrane is raised in the living body or the dead, the sudoriferous tubes are torn from the derma, retract, and close the opening in the epidermis, the spiral coiling on itself. If the epidermis is detached in several layers, each contains a fragment of the spiral tube, with its two openings, lying almost parallel with the plane of the layer, and not corresponding with one another. The walls of the

tube come into apposition, and in this case, as in that of the entire epidermis, an opening is no longer discoverable.

If the horny layer be sliced off, and if, before arriving at the papillæ, we squeeze the skin between the fingers, as we squeeze a piece of orange-peel, we may perceive drops distilling from the pores, which correspond to the infundibuliform depressions between the papillæ, that is, to the situation of the sudoriferous canals.

Another experiment is mentioned by our authors, as evidence of the tubular nature of the spirals. If a hole is made in the horny matter of the heel, in a direction parallel to the plane of the skin, and if a little mercury is poured into it, and if then a thin slice of the exterior of the epidermis is taken off with a razor, and the mercury pressed over with the handle of the scalpel, the metal may be seen issuing by all the sudatory canals in the spot. We see the same thing in the palm of the hand and end of the fingers, when the sweat oozes from them.

Our authors have carefully examined the epidermis of the whale, in order to discover how liquids traverse it from within. Pressure of the fluid out of the sudoriferous tubes, always occasioned the elevation of a little valve of epidermis before it escaped externally. Our authors insist upon these facts, because, although exhalent vessels have been talked of, they have not been sufficiently described nor satisfactorily demonstrated.

After stating and commenting on the various opinions that have been expressed in reference to the sudatory canals, our authors remark that the recent observations of Eickhorn are among the most interesting and most satisfactory. Yet he has committed several mistakes. He believes them, for example, conical, with an infundibuliform opening, and of sufficient diameter to admit of the introduction of a hair.

Our authors themselves allow that it is extremely difficult to ascertain the exact disposition of the sudatory canals, and that it has cost them much time and trouble to obtain the knowledge they have communicated on the subject. It is possible that they may hereafter be proved to be in error; but mere criticism, without a careful examination of the skin, and a repetition of experiments, will be insufficient to do so.

IV. ON THE CUTANEOUS APPARATUS OF INHALATION.

In order to examine this most satisfactorily, we must remove a thin slice of the epidermis,* taking care to select a soft and white portion. The slice which has been removed is to be placed on a piece of glass with a few drops of water, and after we have satisfied ourselves that there is no extraneous substance along with it, we may proceed to dissect it with curve-pointed instruments.

* Our authors consider all external to the derma as epidermis. The most external layer of it, which we are here directed to remove, is the cuticle, or epidermis of most authors. When the most superficial layer of the epidermis is mentioned, *the epidermis*, of common parlance, is meant.

The inhalent canals appear to be situated below the most superficial layer of the epidermis. They present the form of separate radicles spread out in the horny tissue, where they anastomose several times, and then penetrate the derma by the infundibulum of the papillæ, near the sudoriferous canals. All these vascular trunks, symmetrically arranged in the fissures between the papillæ, which they traverse, communicate in the derma below the papillæ with canals, forming a common plexus. Our authors confess that they have seen this termination of the inhalent canals very seldom; yet they feel confident that they *have* seen it.

These vessels are of extreme tenuity, and ramify in the form of loops in a hard, elastic, resisting substance. They themselves break with great facility. When examined in the microscope, their colour is white and silvery, and they are crossed by diaphragmatic septa; a circumstance which establishes their analogy with the veins and the lymphatics. Sometimes they are knotty, at others they are smooth. They may be distinguished with a very weak lens, and even with the naked eye, on scraping the surface of the epidermis. They are occasionally long, and resemble very fine hairs.

In order to perceive the entrance of the inhalent vessels into the derma, we must lightly raise the epidermis. We may then, with the assistance of a magnifier, observe all the hidrophorous canals, accompanied with an inhalent vessel, the two being very intimately united near the derma, although they speedily separate.

With the microscope we may distinguish the difference between the two sets of vessels. The sudoriferous canal is the larger, covered with small imbricated laminæ, serpentine in form, and elastic. The inhalent vessel is smooth, silvery, straight or slightly curved, and traversed by a visible central canal, imperfectly interrupted by small septa. If the epidermis is separated too violently from the derma, the inhalent vessels are broken, and only the sudoriferous canals, which are capable of considerable elongation, remain. Another mark of distinction is this:—the inhalent vessels have anastomotic ramifications, and a plexiform arrangement, which the sudoriferous canals have not.

Our authors mention an experiment which appears to them to indicate the existence of a direct communication between the vascular capillary system and the inhalent canals. If an injection is thrown into the main artery of a limb, it always stops at the derma. If, then, the skin is removed in thin slices, while pressure is made with a scalpel on the part that has been injected, the inhalent canals may be seen coloured in the horny tissue, as they ramify and anastomose beneath the most superficial epidermic layer. The sudoriferous and inhalent vessels cannot be dissected throughout their entire extent, on account of the resistance offered by the horny tissue, but the one may be seen in fragments by the microscope, and the other entirely by means of injections.

Whatever may be the colour of the horny tissue, the absorbent canals, the nerves, and the sudoriferous canals are always white.

Our authors have been unable to discover external orifices to these inhalent canals. They are disposed to think that fluids are first imbibed by the horny tissue, and then absorbed by the inhalents. Our anatomical readers need not be reminded of the contradictory statements that have been made with respect to the orifices of the lacteal vessels. The difficulty of

distinguishing the apertures of the cutaneous inhalents (should there be any), must be very much greater. Our authors engage deeply in the examination of opinions on the nature of the intestinal villusities, and of the lacteal apertures. But we need not follow them.

We may mention, however, the method of injecting the lymphatics of the skin adopted and recommended by our authors. Sometimes they have introduced the mercurial tube into a lymphatic vessel of the leg, and the mercury has run into the cutaneous lymphatics of the groin. This plan frequently fails. In other instances they have introduced the mercurial tube directly into the cutaneous tissue, at the point where they desire to examine the lymphatics, and to be certain of not mistaking the sanguineous capillaries for them, they have previously thrown very fine injections into the arteries.

V. ON THE BLENNOGENOUS APPARATUS—THE SOURCE OF THE MUCOUS MATTER.*

In order to examine this apparatus properly, it is necessary to select recent skin, injected and reddened with its blood. If the derma is white, either naturally or by maceration, nothing can be learnt from it.

The mucous matter of the skin becomes blended, soon after its secretion, with colouring matter, which occasions the various tints of horn, hair, scales, feathers, and so forth. The mucous matter and the horny matter are, as has already been observed, the same, the horny being originally mucous.

On examining the skin from within outwards, we find—

1. In the derma—

a. A *Blennogenous* apparatus, composed of a secretory gland, and of a canal which excretes the secreted matter, the mucus, which becomes horny matter by desiccation.

b. A *Chromatogenous* apparatus, composed of a secreting parenchyma, and of canals which excrete the product of secretion (squamous corpuscles).

2. External to the derma, and the joint effect of both these apparatuses—

a. The horny matter, or epidermis.

b. The hair, feathers, horns, hoofs, &c.

1. *The Blennogenous Apparatus.*—At the base of the derma we may distinguish small reddish glands, which, under the microscope or a common lens, appear knotted, irregular, and grooved by blood-vessels. They are enveloped in loose cellular membrane, and surrounded by small, transparent, adipose vesicles. From the summit of each of these glands there issues a canal or tube, which traverses the derma, and opens at the bottom of the furrows remarked on it. The tube is invested by a prolongation of the thin cellular membrane which envelops the gland. Capillary vessels or filaments may be seen adhering to the tube and to the glandular organ, into which our authors have seen a vessel of some size enter. The canals usually form a regular colonnade in the thickness of the derma. Sometimes

* Blennogenous, from *βλεννα*, mucus, and *γεννάω*, to produce.

the glands are placed at unequal heights, and appear to communicate with one another by means of intermediate canals. The ranges of excreting canals correspond to the furrows in the derma; they are perpendicular to the plane of the parenchyma secreting the colouring matter, to which we shall next direct attention.

2. *The Chromatogenous Apparatus.**—This is situated on the external surface of the derma, at the bottom of the furrows seen upon it, below and between the rows of papillary eminences. Superficially it gives rise to a great number of short excreting tubes, which end and pour out a peculiar matter at the bottom of the furrows. On its deep surface it is in relation with capillary vessels, and with the excreting canals of the blennogenous glands.

Its structure is areolar, spongy, and tough. The parenchyma itself, as well as its excreting canals, easily redden on account of their vascularity. Here the arterial system stops; this parenchyma forming, in the natural condition of the body, its limit, though the vessels of the papillæ, strictly speaking, do advance a little farther.

If we lacerate this tissue, we find in it innumerable little filaments, from which escape scales or colourless corpuscles in abundance. This is the only reservoir of such scales in the derma, and this parenchymato-glandular tissue may therefore be regarded as a peculiar organ, peculiarly constructed, penetrated by arterial and venous capillaries, and giving rise to excreting canals. The latter terminating at the same point as those of the blennogenous gland, pour into the mucus formed by this gland granules of pigment or colouring matter.

3. *Excreted Products of these Apparatuses.*—The joint product of the blennogenous and chromatogenous apparatus is the epidermis, or the horny matter. Our authors examine it as it occurs in the heel.

The inferior or deep surface of the entire epidermis present inequalities which correspond to the inequalities on the external surface of the derma. It exhibits, indeed, a cast of the latter. This surface of the epidermis has received the name of the reticular web of Malpighi. Two divisions (cloisons) may be distinguished in it. One fills the furrows of the derma, and adheres to it by prolongations which issue from the excreting blennogenous and chromatogenous canals. By this it is that the horny tissue is produced and renewed. When we attempt to separate the horny matter from the derma, we always experience a certain degree of resistance from this attachment to the furrows of the derma. Sometimes we may perceive the sort of roots sent into them, but, more commonly, they are indistinguishable, the horny matter coming off cleanly, as if only laid in the furrows. On the sides we may observe small holes, which give passage to the lymphatic vessels.

The other division of the horny layer, named by our authors inter-papillary, occupies the interval left by the bifid papillæ, and is prolonged into the infundibuliform depressions around the sudoriferous and inhalent canals. We may remark on the edges of these ridges of the horny matter, a lacerated appearance, occasioned by loose fragments of the sudoriferous canals.

* Chromatogenous, from *χρῶμα*, colour, and *γεννᾶν*, to produce.

On the right and left may be found the holes and sort of sheaths into which the papillæ penetrate obliquely.

On the external surface of the epidermis there are visible prominent lines, slightly concentric or parallel, and separated by grooves. Examined with a lens, these lines present alternately small papillary eminences and fissures, or slight depressions, containing the orifices of the hidrophorous canals. A line contains usually from four to six. It may easily be ascertained that the prominent lines have an imbricated disposition, so that in the motions of contraction, more particularly of the hand, they advance over one another, like the scales of a fish or of a serpent, whilst in the motions of extension they separate and lay open the bottom of the grooves. This imbricated appearance is very manifest where the skin forms folds, as at the bend of the elbow, the groin, &c.

The horny matter in man is whitish, elastic, transparent, and highly hygrometric. Its examination is extremely difficult, for it gives under the scapel, like caoutchouc; when soft, it swells, and nothing can be made out of it, and when dry, it scales off at the least touch or pressure.

The epidermis of the whale is more adapted for anatomical study. The horny matter is secreted by a special apparatus, and organized like false membranes. It seems then to deserve the designation of tissue, accorded to it by Bichat.

The *epidermic tissue* then of the *whale** is smooth, spongy, and generally of a deep slate colour. Proceeding from without inwards, there may be detected in it with the naked eye two layers—one external, and parallel to the plane of the derma; the other consisting of straight fibres, extending perpendicularly between the derma and the external layer. We may see through this dark tissue the summits of the white nervous papillæ enveloped in their sheaths. The internal surface is dotted with apertures for the passage of the little papillary cones.

The respective thickness of the two layers is as follows: that of the external or horizontal layer, one line; that of the deep or perpendicular layer, three lines. As the thickness of the derma on the head of the animal is ten lines, the diameter of the whole skin is about fourteen lines.

In order to analyse the epidemic tissue, we must take a perpendicular fibre, and place it under a magnifier, on a slightly moistened glass.

The tissue is thus found to be composed of small scaly imbricated bodies, on a fine cellular web. These scales are readily detached, and stain water black under the appearance of granulations. A fibre is found of a series of these scales inserted one into the other. The fibre is elastic and resistant.

The origin of the horny matter may be well seen in the whale, on account of its black colour. It fills all the space unoccupied by the papillæ. The black matter is excreted a little prior to its appearance on the outside of the derma, about half a line internal to which point we find it inclosed in a capsule or dermic membrane, at the bottom of which may be remarked little whitish or filamentous projections, which the capsule embraces; these are the excreting canals of the chromatogenous parenchyma.

* Again we must observe, that epidermis, in our authors' phraseology, signifies all the horny matter above the derma. Cuticle is only its external layer.

The horny matter is formed within, and has then almost a mucous consistence. It is protruded from within outwards, and pushes before it the previously-formed layers, which gradually solidify.

Our authors hang a good many observations on these facts; but we may waive the consideration of them, and having ascertained so much of the horny matter of the whale, return to its examination in man.

In order to examine the *horny matter in man*, the best plan is to place under a magnifier, in a little water, a portion of the most external epidermis, or of the mucus which is formed on the surface of the derma. If we then separate its component parts with the point of a scalpel, we may observe floating, in the midst of the fragments of inhalent vessels and sudoriferous canals, a number of apparently shapeless corpuscles. They are not really amorphous, this appearance depending on the violence employed either breaking them up, or leaving them partially agglutinated. In general, the scales affect the form of an irregular trapezium, are of a certain thickness, white, transparent, more or less striated, and disposed on a very fine areolar web, in an imbricated order. We may easily recognize, say our authors, in the scales, the product of the chromatogenous or colouring organ; and, in the pellucid web which supports them, the mucus of the glandular blennogenous organ.

The horny matter, excreted in the first instance in a fluid mucous state, moulds itself layer by layer on the papillæ, and envelops and protects the sudoriferous canals and the inhalent vessels, acquiring greater density as it becomes placed externally.

The horny tissue in the negro is black every where, excepting on the palm of the hands and the sole of the feet, where there are only slight traces of that colour. Its structure is the same as in the white race of men. On the heel of the negro the scales are colourless. In the rest of the body, the skin, when examined by a magnifier, is not so black as it appears to the naked eye. Over the papillæ it is white, in consequence of the white nervous matter shewing through it. The areolar web which supports the scales is always white.

VI. ON THE CHROMATOGENOUS APPARATUS, OR ORGANS OF THE SECRETION AND EXCRETION OF THE COLOURING MATTER.

The mucous rete of Malpighi has been regarded as the sole seat of the colouring matter, which was said to be secreted by a vascular net-work, and collected and preserved in a semi-fluid form. Our authors adopt and present a very different view of it.

They have observed that if the skin is black or white, the free border of the scales is coloured black or white. The attached part of the scales and the cellular web into which it is implanted are always white, as are the parts accidentally contained in the epidermis, the nervous papillæ, the sudoriferous canals and the inhalents. The scales then are the only parts in which colour resides. They were led to compare this with the wings of the lepidoptera, and to examine the colouration of flowers. They discover and dwell on both as analogical cases; but we may pass these considerations by.

Their observations on the colouring organs in man are the following:—

1. They presume that the form of the scale plays some part in the production of the phenomenon. Have the negro and the cetacea, or should they have, a scale of similar form? That of the European is trapezoid. The little articulated pieces which compose the petals differ according to the colour they present and the kind of flower to which they belong.

2. The scale is in more or less intimate communication through its pedicle with its secretory organ, and is nourished by a true circulation. It may therefore be considered as acting in a special manner on the fluid which is in contact with the pedicle by means of the areolar web to which it is attached.

It is certain that the colours are arranged with art in little compartments, so as to produce their optical effect. Our authors *presume* that the scale of the Negro is different in form from that of the European. Of course it ought to be so, to sustain their speculations. This consideration makes us wonder greatly that they have not found it so; for really, they have seen so much and so minutely that they might as well have seen this too. - Indeed it is inexplicable, if they can determine the exact form of the scale in the white man, in which the corpus mucosum itself is seen with comparative difficulty, why they cannot determine the exact form in the black man. They have shewn, we think, a little squeamishness in this instance. The colouring matter itself they admit to be formed by the glandular parenchyma to which reference has been previously made.

Thus the epidermis is not mere inorganic matter, or mucus mechanically expelled, but a tissue of complicated organization. It is connected with the important functions of exhalation and absorption, by the property which it possesses of suffering penetration by liquids; and this imbibition or endosmosis would seem to be the rudiment, or simplest degree of absorption in cutaneous and mucous surfaces.

The surface of the skin is marked with lines affecting geometrical figures, which have a fixed relation to the motions of the particular part. Thus, on the pulp of the fingers they form concentric circles—sinuosities in the palm of the hand—lozenge-shaped figures on the wrist, &c. These forms are such as are best adapted for the movements of the parts where they occur. As all the organs placed on the surface of the derma have an oblique direction, the disposition of all the epidermic coverings must of necessity be imbricated. We may remark this in the mode of implantation of the hairs.

If we look back on the anatomy of the skin, we may give the following brief sketch of its functions.

1. The blood carried by the arterial capillaries to the parenchyma that secretes the sweat, and returned from it by the veins, gives rise to the sensible and insensible perspiration.

2. Inhalents imbibe on the surface of the derma and in the epidermis extraneous fluids, and pour them into the lymphatics and the veins.

3. Nerves placed like sentinels on the surface of the body receive the impressions of touch.

4. Horny matter is secreted and moulded around the papillæ and the inhalent and sudoriferous canals. It is part of the apparatus of touch, a means of ornament and of defence, and eminently hygrometric. By virtue of the latter property it is penetrable more or less, according to its density,

by the fluids with which it is brought into contact, and so performs an important part in the function of absorption or imbibition, which it regulates.

5. The derma is the tissue which supports, insulates, and protects the delicate instruments of these various functions.

A short section, or, rather, a few observations are devoted to the Pathology of the Skin. They are not of sufficient importance to detain us. Nor need we enter on the critical exposé of what other authors have written. All that we shall add before quitting the subject are the conclusions of our authors.

They believe they have shewed that:—

1. There exists an apparatus of exhalation, composed of hidrophorous or sudoriferous canals, which have a spiral disposition, and open on the surface of the skin by one extremity, while their other extremity is in connexion with a parenchymatous or glandular body, the diapnogenous apparatus, in the derma.

2. The inhalent canals are situated in the mucous body; they appear to be unprovided with orifices at their external extremity.

3. The medium in which these exhalent canals are disseminated is on the external surface of the derma.

4. The mucous matter, which by its induration forms the different epidermic layers, is the product of a particular apparatus; this is composed of a principal organ comparable to a gland and deeply placed in the derma, and of an excreting canal. The whole constitutes the blennogenous apparatus.

5. The epidermis or horny tissue resulting from this secretion and from its mixture with colouring matter, is traversed by the sudoriferous canals. The inhalent canals and the nervous papillæ enter it, but do not open externally.

6. A second apparatus, situated near the superficies of the derma, is devoted to the secretion of the colouring matter or pigment. This apparatus is composed also of minute glands and excreting canals. It constitutes the chromatogenous apparatus.

7. The matter secreted by the latter apparatus is mingled with the horny matter and its dependencies, and colours it.

8. The epidermis resulting from the secretion of the mucous or horny matter, and its mixture with the colouring matter, is disposed in successive layers. From this disposition results the scales of the superficial layer, or the *epidermis*, of most authors.

9. The apparatus of sensation in the skin, is composed of papillæ or conoidal eminences essentially formed by the extremities of nerves, enveloped in epidermic layers. The nervous filaments arriving at these new sheaths, throw aside their neurilema, and terminate by anastomosing with one another in order to form arches.

10. A blood vessel, very inferior in size to the nerves, penetrates the papilla.

11. The nervous filaments, although they lose their neurilema when they enter the epidermic sheaths, still preserve a proper membrane.

12. The derma is a fibrous and vascular web, which contains the organs of secretion, and the commencement of their excreting canals, the origin of the exhalent canals, and many lymphatic and sanguineous vessels. The latter are chiefly found on the two surfaces of the derma especially upon its

inner, and form numerous networks, constituting a sort of erectile tissue. The blood-vessels do not penetrate the mucous body, and beyond the derma we only observe them in the papillæ, where they are delicate, not numerous, and difficult to be distinguished. We may observe, however, by the aid of injection and of magnifying-glasses, lymphatic vessels on the external surface of the derma, in the deepest layers of the mucous body, and around the papillæ. They are arranged in net-works, rather close; their terminating apertures cannot be recognized.

This closes the memoir before us. It is the first of three, and the only one which has yet appeared. The second will be appropriated to the description of the accessory parts of the skin—hair, wool, feathers, scales, nails, horns, follicles, &c. The third will be occupied with the structure of the mucous membranes, and with physiological observations on the functions of them and of the skin.

It is not necessary for us to pronounce an opinion on this work. None can deny to its authors the merit of great labour, research, and ingenuity. Whether their statements are strictly accurate—whether they have seen more or less than nature offers, we do not feel ourselves competent to determine. Those only can pronounce an opinion, who have subjected the skin to very close microscopical observation, which we have not done.

SURGICAL OBSERVATIONS ON TUMORS, WITH CASES AND OPERATIONS. By JOHN C. WARREN, M.D. Professor of Anatomy and Surgery in Harvard University, and Surgeon of the Massachusetts General Hospital. 8vo. pp. 602. Sixteen coloured Lithographic Plates. Boston, 1837.

Dr. Warren justly observes that our knowledge with respect to tumors is still very vague, and our treatment of them is consequently unsatisfactory. The various attempts which have been made to classify them have failed to a greater or a less degree, and in no respect have all classifications failed so signally as in their relations to diagnosis.

The basis of the diagnostic signs of tumors must necessarily rest on their physical qualities. These are either primary or secondary. The former are such as are common to all bodies—figure, solidity, extension, situation. The secondary qualities are colour, sound, the sensation they occasion, and so forth. Unfortunately it happens that the primary qualities are those only which are invariably present, and they are so common in kind to all tumors, that they cease to afford very useful marks of discrimination. A decidedly malignant tumor, for example, may differ little, or not appreciably, from a non-malignant one, in form, or size, or hardness. Nor are the secondary or accidental qualities so constant or so peculiar as to supply the want of definite primary ones. One malignant tumor for example may have a mottled bluish colour on the surface, from the development of its venous system—but another tumor of the same nature may be deficient in this characteristic.

Such circumstances as these have operated to produce that uncertainty and confusion which still prevail with regard to the discrimination of tumors. Our knowledge is, no doubt, much greater than it was, for the close attention which has been directed to the subject has dispelled many erroneous notions, and established many valuable general conclusions. What has been done has been the result of the patient observation of facts, and what is to be done must be effected in the same manner.

We agree with Dr. Warren in the following opinions:—

“The difficulties arise from a number of causes: from the great variety of these diseases, which is such that the most experienced surgeon is frequently meeting with species he has never before seen; from the resemblance in external appearance between tumours whose character is quite different; from the want of an arrangement which may enable him to view them in groups, instead of being compelled to consider them, as often happens, merely as individuals.

These difficulties in the actual state of our data are insuperable. The last has been frequently the subject of the labours of ingenious and experienced men. Attempts have been made at arrangement and classification; but with so little success, that even the authors of these attempts have risen from their labours with disappointment and despair.

The difficulties of diagnosis are not the greatest which attend this subject. We are in ignorance of the causes of these morbid changes; of their intimate texture and organization; and in many instances of their diversity from or identity with that of the textures in which they are situated. More facts are wanted. More histories of the origin, course, and results of such affections. More observations on their intimate structure at the different periods of their existence.

You will not therefore expect a complete and satisfactory account of these affections. What you may principally hope for is, a collection of a considerable number of objects, which being brought as it were into a single view, may by means of a comparison of their appearances and symptoms, enable you to acquire some general notions in regard to them, and form such arrangement, which, however imperfect, is better than the confusion of an indiscriminate grouping.” 3.

We are sorry to find that the system of medical polity in America does not separate to the facilitating of scientific enquiries. The division of labour which obtains in this country is the evidence at once of its wealth and its civilization, and those who rail at it are ignorant of the wants and the tendencies of society. But we will present Dr. Warren's admission of the working of the American system.

“Practical men in this country, called as they are to every kind of medical duty, possessing no time they can devote to study, but what is robbed from hours which the wearied faculties require for repose, can estimate the obstacles to any literary labour among us.”—*Pref.* viii.

The work is divided into fourteen sections. They are in order, on epidermoid tumors; on dermoid tumors; on tumors of the cellular membrane; on muscular tumors; on periosteal tumors; on osseous tumors; on tumors of the glands; on tumors of the secreting glands; on tumors of the testis; on tumors of the mucous glands; on tumors of the vascular texture; on tumors of the membranous textures; on encysted tumors; on abdominal tumors.

It is obvious that by adopting such a method of arrangement as this, the same kind of tumor will be considered again and again, as it happens to

occur in various parts. But although it is opposed to a scientific analysis of the varieties of morbid growth, it has the practical merit of presenting to the mind tumors as they occur in nature, and in offering us a sort of substitute for bed-side experience, or, rather, a clinical report of it. It precludes, too, the necessity for any analytical operations on our parts, and enables us to pick out what we think most interesting or most instructive.

The following remarks on the method of examining tumors are judicious. They shew an exact mind, and, what is quite as good, a candid one.

“Under the disadvantages from a want of information on a number of important points, we are limited in our means of distinguishing the various tumors from each other, with a satisfactory degree of confidence. To accomplish our diagnosis as far as practicable, we should begin the investigation with the acquirement of a history of the origin and progress of the tumour, its influence on the part where it is situated, and on the whole system. After having obtained this history, a physical examination should be conducted with great care, and if there be any obscurity in the case, should be repeated frequently, and under different circumstances. With the exception of steatomatous and simple glandular tumours, how few of these diseases appear on dissection as the imagination of the surgeon had depicted them. Such misconceptions do not prove either a want of attention or of skill. They prove only the uncertainties of the best-studied investigations, and the necessity of bringing to our aid all the methods of elucidation, which time, reflection, and care may furnish. Therefore we should never advise nor undertake any decisive measure, at first view, in any but the plainest cases. To be called to operate on a chronic tumour at first sight, is an impropriety which no prudent surgeon should submit to.

The physical qualities of tumours, like those of other bodies, are primary and secondary. Each of these, as far as may be, should be successively studied. The *figure* is the quality which first strikes our senses, and should be well considered. Certain species of tumour affect particular forms; the steatoma, for example, is commonly rounded, and encysted tumors always have this form. Bony tumors and those of the complicated glands are irregular. *Extension* is an important quality, as it involves the connexion with surrounding parts. This is more difficult to understand, because we have access to a part only of the object inspected, the rest being concealed by organs attached to it. The extent of the part beyond the reach of the senses of touch and vision, is that which may implicate the most important structures, and cause the greatest embarrassment. The solidity will decide whether the tumour consists of bone, as an exostosis; or of bone and soft substance combined, as an osteo-sarcoma; or of fluid, as in the encysted tumour. Of the secondary qualities, that of colour has a great influence on our judgment in these cases. When the natural colour of the skin over a tumour is changed to red, our first impression leads to the suspicion of a malignant action, which may be confirmed or confuted by further examination. If this change appeared in a chronic affection of the breast, the suspicion would probably be well founded; if on one in the back, the appearance would, most likely, prove to be accidental. We are perhaps ready to attribute too much importance to this quality, considering its variability, and the different lights in which it appears to different persons. A lady came to me from the country with a very tumid breast, the skin of which was of a bright red colour, giving a formidable and very malignant aspect. On the following day the colour, was less, and gradually diminished, till the part had the usual appearance of healthy skin, and the disease proved not to be malignant,

Besides these qualities, there are others which may be called accidental, such as *pulsation*, *vibration*, *undulation*. These may exist in the tumour itself, or in a part connected with it, and may indicate aneurism, aneurism by anastomosis,

a fluid contained in a cyst; or the proximity of such diseases to the part inspected." 11.

In general, we believe that the best method of investigating cases is by first ascertaining the nature of the phenomena which actually exist, and subsequently enquiring into their history. The advantage of doing so is obvious. By knowing what there *is*, we have a clue to our inquiries into what there *has been*. If we attempt to obtain a history without any distinct object in view, we are apt to get a tedious and an inconclusive one, for patients commonly dwell on trivial and very often on fallacious circumstances. In the cases of tumors a better and a less rambling history is usually obtained, for being objects of sense, their rise and progress have generally been noticed with tolerable accuracy.

I. EPIDERMOID TUMORS.

We see nothing in this section to detain us.

II. DERMOID TUMORS.

Under the head of Dermoid Tumors, our author considers Lepoides—Keloides—and Eiloides.

1. *Lepoides*.* This name is applied to the scaly crust, or bark-like roughness of the skin, seen on the face of old persons. The scale of the cutis, observes our author, is an irregular rough crust, of a brown colour, which might be mistaken for a wart. Crusts are very common in the face, in those advanced in life, and sometimes spread over a considerable surface, forming a rough brown-coloured plate; but the true lepoides is a circumscribed crust, which at first appears like a discoloured speck or a piece of earth. This falls off, and is renovated in the same form, for many successive years. When the crust separates spontaneously, it sometimes leaves a new cuticle behind, which gradually thickens. In other cases the cutis, being exposed, presents a spicular surface of unfavourable aspect. This surface throws out an ill-conditioned pus, which dries in the form of irregular scales. At length, owing to accidental irritation, or a change in the constitution, from age or other cause, the cutis ulcerates slowly, and forms an incurable sore or cancer of the face. The tendency of this disease is to advance very gradually without much pain, and without contaminating any parts, but those in contact with it; so that the patient may live a number of years before he is worn out by it. Thus the complaint is intermediate between the true malignant and the simple tumors. It is not absolutely malignant, for the constitution and distant organs are not contaminated. It is not simple, for it does not admit of cure. The only remedy is extirpation by the knife, or destruction by caustic. The indications for the operation are thus laid down by Dr. Warren.

"The mere existence of a scale on the face, even of a patient advanced in life, would not call for an operation. We should say, that this should be re-

* From *Λεπος*, bark.

sorted to when the following conditions are combined; a crust of small size, with a decided elevation and well-defined red edge; with pain or shooting; and any surrounding induration. These appearances would derive additional importance from old age. Should ulceration actually exist, the proper course will be more distinct; and this may be followed with a hope of success, even when ulceration is much extended, because the morbid action is limited to parts in immediate contact with the ulcerous affection." 28.

The best caustic, should the patient object to the knife, is the potassa cum calce. It should be applied through a hole of appropriate size cut in sticking-plaister. The paste must be employed to the thickness of the twelfth of an inch, and removed on the day after its application. The eschar separates in five or six days.

2. *Keloides*.—This name, objectionable on several accounts, was adopted by Alibert, from the red vascular processes, extending from the tumor, and giving it the appearance of crabs' claws.

Under the head of *Keloides*, Dr. Warren places three varieties. A. A white permanent elevation of the skin. B. The spider-like pimple of the face. C. The *keloides* of Alibert.

A. The first variety is a rising of the true skin, in the form of the cicatrix of a burn. It is a white elevation of the skin, without discolouration, or with a very slightly coloured margin; not sensible nor painful; but differing from the cicatrix of a burn in its disposition to grow, and in the difficulty of eradicating it. No ulceration occurs, nor does it terminate in a malignant disease. As it resembles the scar of a burn, so it sometimes originates in such a scar. It is seen to occur in disordered habits, after operations for the removal of small tumors, such as common warts, small encysted tumors, &c.

Such is the account given of this sort of tumor by our author. He relates two cases. One is sufficient for illustration of the preceding description.

Case.—“A young lady shewed me a wart-like tumour on the right shoulder, which she had noticed two years before, in size about a quarter of an inch, and raised from the surface one-sixteenth of an inch. It was cut out; the wound healed slowly. In about four weeks it began to rise, and shortly attained a diameter of three-quarters of an inch, with less elevation than at first. Caustic potass was then applied. The eschar separated, and the wound was subjected to frequent touches of the nitrate of silver. After it healed, the raised cicatrix was again seen. I removed it once more by the knife, including a quarter of an inch of sound skin around, and a layer of cellular membrane from beneath. This time it healed well, and there was no return of the tumour.” 42.

B. The second variety, continues our author, is a small red pimple, appearing most commonly on the face; radiating red processes into the surrounding skin. The size of the body of this tumor is usually about the eighth of an inch; the rays sometimes extend half an inch around it. For a long time after its existence, there is no pain nor any uneasy sensation. After having continued for years, it assumes a prickling and finally, a burning pain; increases in size, ulcerates, and assumes a cancerous character. It is, perhaps, exclusively in the decline of life, and in free livers, that this tumor ulcerates. It should be extirpated early.

C. The third variety,—we follow Dr. Warren,—is a more troublesome and dangerous disease. Like the first, it resembles, in the early stage, the

scar of a burn. In colour it is more red than the surrounding skin, and shoots out red vascular processes, which give it the crab-like form. The elevation is not great in the common form of the disease. It is sensible to the touch, and is attended with a burning pain. The parts which are most frequently its seat, are the back, shoulders, and neck. On dissection it exhibits a white fibrinous appearance, much like the scirrho-cancerous deposit in the female breast. The most remarkable fact about it is the disposition to regenerate after removal. This may happen a number of times; and eventually it may ulcerate, and become a malignant sore.

Dr. Warren relates a case of this "true keloides." Two operations were performed, and after each the tumor was regenerated. At each of the points, even where the suture needle was passed through the skin, there was a little rising, similar to the original, about the size of a bean, and quite red. He relates also a case where the keloid tumor was not supplied with any of the processes, which have been the means of its being likened to a crab,

3. *Eiloides*.—"The name we have given to this tumour is derived from the rolls and coils it forms. It is a very rare disease, and I have seen but one instance of it. This is a true production of the cutis, and continues so throughout its growth, although it may become very large. The first appearance of it is an elevation of the skin, similar to that from a burn; without pain, redness, heat, or ulceration; it increases to a great size, and ultimately affects the patient's health. If removed, it is reproduced. No cause is known, but a scrophulous habit seems to predispose to it. The specimen I present to you is of this description of disease. It appears like a triple coil of inflated intestine, each roll being four inches long, growing by a narrow base from the side of the neck. The patient, as you perceive by the colour of the skin was a negress. She was about 15 years old when she first applied to me. I was astonished at the view of this remarkable production, hanging from the side of the neck. She had not been perfectly healthy, nor was she apparently much disordered. I proposed, and soon after executed the removal: taking care in the operation to include, as you see, a portion of the circumference of sound skin. Although the tumour was thus large, the edges of the skin could afterwards be approximated and united, in a great part, by the first intention. The non-united part suppurated and granulated; and during the healing process was frequently subjected to the action of astrigent caustics. In four weeks the wound was healed perfectly smooth. About eighteen months after she came to me with a tumour in the same place, not so large as the first, but occupying a broader base. She wished to have it removed; and on my declining, applied to another practitioner, who operated on it. Soon after it regenerated; grew rapidly; the patient's health failed, and she died dropsical. On examination of the body, the lymphatic glands in the abdomen were greatly increased, forming large tumours throughout the cavity. The liver was diseased. The serous cavities and the cellular membrane were full of water. The case of Eleanor Fitzgerald, depicted in Mr. John Bell's Principles of Surgery, seems to have been of the same character as this." 49.

III. TUMORS OF THE CELLULAR MEMBRANE.

On common steatoma, or fatty tumor, it is unnecessary, we imagine, to dwell. But when such tumors form beneath the muscles, or between them,

the diagnosis becomes difficult, and their removal troublesome. Dr. Warren relates an interesting case of this description.

Case.—‘ Mr. N., a gentleman 30 years of age, very corpulent, presented himself at the M. G. Hospital, with a tumour at the angle of the ribs, on the right side, occupying a space apparently about five inches in diameter; not distinctly circumscribed; becoming flat on raising the arm, so as to excite a doubt whether it was any thing more than the accumulation of common adipose substance, or whether it might not be a fluid. It had been discovered about three weeks before I saw it. An incision being made through the skin, the adipose substance was dissected through, without any appearance of tumour. The latissimus dorsi muscle being exposed, was divided; yet no tumour discovered in nor under it. I began to apprehend that I had been mistaken; and some degree of excitement, was experienced by those who witnessed the operation, at the difficulty. The serratus major muscle having been brought into view, was in its turn divided, and under this the tumour was found, buried in a mass of fat. A very firm adhesion to the ribs and intercostals, rendered it difficult to raise it from its attachment. When removed, it was found to be about an inch thick, and three inches diameter, composed of adipose substance, excepting in the middle, where was found a small cellular sac, containing a curdy fluid. The patient had a slight pleuritic attack three days after the operation. This being relieved by two bleedings, he did well afterwards.” 57.

Mr. Lawrence has described, in the Medico-Chirurgical Transactions, a tumor of the cellular membrane wholly free from fat. Dr. Warren has witnessed no instance of it.

But he has seen in the cellular membrane a tumor composed of that tissue, condensed, and exhibiting a fibrous arrangement. It is much firmer than the adipose tumor, not so regular, being flattened, apparently by the action of muscles between or under which it is situated. It is not painful; causes much lameness, when in the extremities; and is apt to be regenerated, probably from prolongations, which escape detection at the time of operation. The colour is whitish, consistence firm, and texture laminated.

A case of this description occurred to our author in July, 1834. The tumor was about four inches in diameter; of a flattened form; was situated under the hamstring muscles, where the tendons separate. The dissection was deep and difficult, from the irregular processes running under the muscles; but the whole of it was removed apparently; the wound healed by the first intention, and the patient left town in a week from the operation. About a year after, that is, in the Summer of 1835, she returned with a tumor not quite so large, nearly in the same situation, which Dr. Warren again removed. The patient soon recovered, went home, and has not been heard of by our author since.

We observe nothing new in reference to the painful subcutaneous tubercle—a tumor which is usually more or less connected with a subcutaneous nerve.

IV. MUSCULAR TUMORS.

These, observes Dr. Warren, are formed in the substance of the muscles. They are not very common. On external examination they are less distinctly defined than steatomatous tumors, and less moveable. When the muscles in which they are situated are perfectly relaxed, they possess a con-

siderable mobility; when these are firmly contracted, the tumor is quite fixed,—and these circumstances constitute their most remarkable character. The diseased part is not very easily distinguished from the healthy; so that in operation it is necessary to trench deeply into the surrounding muscle. They are more frequently accompanied with pain than cellular tumors; and more disposed to degenerate into malignant affections. Their origin is often traceable to accidental injury,—a blow, strain, or continued pressure. After removal they are apt to re-appear. So far as we have seen, the muscular tissue would appear to be prone to fungus hæmatodes, or medullary tumors. We have seen many such cases, and in several the origin of the tumor was referred to some sudden exertion, which may be conceived to have ruptured or strained the muscular fibre.

The affections noticed by our author, are,—encysted muscular melanosis,—scirrhus muscular tumor,—malignant melanosis,—and fungus hæmatodes. These do not require much consideration at our hands, as we do not observe any very striking features in the cases. Those which deserve attention are the following.

1. *Encysted Muscular Melanosis*.—In the Autumn of 1835, a young woman applied to Dr. Warren, with a tumor on the anterior part of the thigh, about the size of a hen's egg. It had existed five or six months, and no cause for it had been discovered. When the muscles were relaxed, it was freely moveable in a lateral direction; when they were contracted, it was perfectly fixed. It was free from pain or tenderness. Soon afterwards, Dr. W. removed it. An incision being made over the rectus muscle, its tendinous fibres were exposed below the middle of the thigh. These being separated, the tumor was found buried in the midst of the rectus, from which it was removed with considerable pain and hæmorrhage. The wound united in part by the first intention; but a small sinus remained open about four weeks, after which she recovered and has had no return. On examination of this tumor, it proved to be a melanosis. It was seen to be composed principally of hard dark-coloured muscular substance; but its nucleus consisted of an osseous shell, an inch in diameter, containing a dark-coloured fluid, and lined by a black crust.

Dr. Warren offers a solution of the formation of the tumor. The patient, he conjectures, received a blow on the part, which ruptured some vessels. A coagulum was formed, and gradually covered with an osseous crust. The injured muscular substance might become indurated either before or after the formation of the crust, and partook of the melanotic action. He adds that the case was certainly not malignant, as the patient has been well for two years. We cannot subscribe to so positive a declaration. We apprehend that the records of surgery will furnish many instances in which as long a period as two years has elapsed without a recurrence of malignant tumors after operations, and yet the patient has ultimately had such a recurrence, and died of it.

2. *Scirrhus Muscular Tumor*.—We only allude to this for the purpose of noticing a case in which Dr. Warren operated. Why we do so, will presently be evident.

Case.—A shoemaker had a tumor of three years' growth, of which the No. 70.

following is the account given. Beginning at the upper edge of the cartilage of the fifth rib, it extended to the lower edge of that of the eighth, and required the breadth of six fingers to cover it vertically, and of four to cover it transversely. Its breadth lay from the median line to the left, beginning from the linea alba. In colour, the skin was not changed, excepting that it exhibited numerous enlarged veins. In consistence it had the hardness of a periosteal tumor, that is, something less than that of bone. A degree of sensibility existed on the edge of the cartilage of the fifth rib, and at some other points. It was slightly moveable in a lateral direction, but not in the vertical, and its movement did not appear to affect the ribs. There was a sensible pulsation, without any vibration.

All the circumstances make it probable that this tumor was of a scirrhus character, and far from improbable that it was adherent to the peritoneum. Dr. Warren determined to remove the tumor, which he did on the 9th of March, 1837.

"The patient being placed on a table, an incision, seven inches long, was made from the fourth rib downwards, and the anterior face of the tumour was exposed by dissecting away the integuments. Its face being laid bare, exhibited a blueish colour, and was of a scirrhus hardness. Every stroke of the knife around it was followed by a copious flow of blood. When the circumference of the tumour was uncovered, its edges were found to be quite undefined and concealed by the muscular connexions. These being cut through, I was able to discover an ill-defined edge, and proceeded with the knife under this edge, and soon found I could detach the tumour from the faces of the cartilages; pursuing the dissection altogether by the touch, as the streams of blood and the hardness of the tumour prevented an inspection of the parts beneath. The operation proceeded favourably, till the tumour turned down over the cartilages into the epigastric region. Here it was obvious that if it involved the internal oblique and transversalis to the extent it did the external oblique and rectus, the incisions would penetrate the cavity of the peritoneum, especially if this membrane adhered to the inner face of the tumour. Such was found to be the fact. The two inner muscles formed part of the disease; the peritoneum adhered to it for about an inch, and not having the advantage of ocular inspection, it was of course difficult by feeling to make a nice dissection of the adherent membrane. This was, however, accomplished, and the whole disease was removed in one mass." 70.

Smart fever succeeded the operation, and slight peritoneal inflammation demanded two or three bleedings. The wound healed in the third week.

On examining the tumor, it presented a cartilaginous hardness. Its surface on all sides, was composed of the muscles between which it lay. Its substance consisted of a brownish texture, in which a multitude of granulations, the sixteenth of an inch in size presented, with intermixture of a fibrous arrangement. At one point there was a softening, as if suppuration were about to begin. At another a dark red spot was seen. The internal or epigastric part was equally hard with the rest of the tumor. The surface of the cartilages was deeply depressed where the tumor had lain.

We allude to this case, partly because the situation of the tumor renders it interesting, but chiefly because we think it dubious whether an operation was proper. In the first place, the tumor had all the characters of scirrhus—any operation would therefore be likely to fail in the long run; in the second place, the connexions of the tumor were uncertain, and it was

probable, as it really proved, that it was attached to the peritoneum, if it did not extend into the chest—circumstances which would render an operation hazardous in its immediate consequences, and still less likely to be favourable in its ultimate. With such objections to the employment of the knife, we believe that the majority of well-informed surgeons in this country would decline operating, and we believe too, that they would be right in their refusal. A surgeon should have strong grounds for anticipating final success, before he subjects his patient to a painful process, which may itself destroy him. He should weigh not only the heavy responsibility of the life of a fellow-creature being brought by his aid into jeopardy, but the effect on the public mind of severe operations lightly engaged in, and disastrously terminated. The whole profession, humanity itself, have an interest in seeing that operations are not abused. One unsuccessful case may create terror in the minds of many persons, and be the means of preventing the performance of operations that would not be unsuccessful. We have again and again urged this consideration. We have denounced unnecessary and injudicious operations, and we will continue to denounce them. We make no account of the interested clamour that has been raised, and probably will still be raised against us. That is of little moment. We are pleading the cause of humanity. Not that we accuse Dr. Warren of trifling in this instance with the life or the feelings of another. He acted for the best, and, though we differ from him, we do so with respect. But there are persons whose motives are more questionable than those of Dr. Warren—whose science is much less—and whose temerity is much greater. Let them beware, for public feeling is gathering against them.

On malignant melanosis there is nothing to be said, nor on fungus hæmatodes. But a case is related as singular, and an enumeration of its main features and result may not be useless.

Case. In 1827, a lady, between 30 and 40 years of age, consulted Dr. W. on account of a tumor, on the outer and upper part of the left thigh, below the trochanter major. It had existed for some months, and had been preceded by jaundice. There was an irregular hardness in the part mentioned, for about the extent of a hand's breadth; presenting much the feeling of the swelling in œdematous erythema; but not discoloured, and something harder than the swelling mentioned. It was not tender to the touch, nor painful. The general health somewhat impaired. The lady was under the necessity of being removed to New York. From that city, the following account of the tumor was received.

"The tumour, as you will remember, is not well defined on either of its margins, but is gradually lost in, and apparently incorporated with the natural parts—Of the hardness of ordinary scirrhus tumours—and evincing little sensibility on pressure—though there is considerable irritation and soreness immediately above and below. There is a point of the tumour which has been gradually becoming more prominent, and over which the skin is already tense and discoloured—yet the hardness there is scarcely less than when Mrs. — first arrived here. The pain in the back, hip, and down the limb would be oftentimes intolerable, but for the recurrence to strong anodynes; indeed Mrs. — has rarely a comfortable hour without their aid. Above and below the tumour there is considerable swelling—sometimes more and sometimes less—and within a few days, œdema about the lower part of the spine and sacrum. When Mrs. —

arrived here, one of the inguinal glands, on the side affected, was much enlarged; prominent and very hard. This has been increasing, so as now to project more than an inch—but shows no disposition to suppuration.” 86.

The tumour increased in size and became more pointed, while the skin grew thinner, and finally ulcerated, giving issue to a small quantity of serous discharge. Before the patient's death, which was the effect of exhaustion from pain, &c. a very extensive and hard tumor was discovered in the abdomen.

On dissection, the glands of the abdomen were found extensively diseased. The liver was indurated, and the other abdominal organs were more or less the subjects of scirrhus disorganizations. The primary seat of the tumor in the thigh, which, no doubt, was of a scirrhus nature, does not seem to have been made out.

3. *Tumors of the Tendons.*—Our author's remarks on this head contain no novelty; but he relates a case which deserves attention.

Case. A clerk, 18 years old, extremely muscular, in the Summer of 1834, undertook to raise himself from the ground, while sitting with his lower extremities extended; and this was to be done without using his hands. This feat he succeeded in accomplishing. No immediate inconvenience was recollected. Two or three weeks after this act, he perceived a weakness about the knees, and examining, found a slight hardness along the tendons of the flexor muscles. He continued to move about, but found the tumors and lameness regularly increasing. Three months after the exertion alluded to, he consulted Dr. Warren. On examining him, there was felt along the tendons of the biceps muscles, in both limbs, a hardness of about four inches in length, and near one inch in thickness, principally seated on the inner edge of the tendon, and partly on its posterior face. When the muscles were contracted by an effort to raise the leg, the patient lying on his face, the tumor became of a stony hardness. When the muscles were relaxed, it was less obvious. No distinct uneasiness was caused by compressing the part. At this period, he was unable to walk more than a few steps.

It appeared that the young man had been under the care of “a bone and sinew doctor.”* Dr. Warren enjoined a severe discipline. He informed the patient that he must prepare himself for a confinement of at least a year, possibly for two years or more. He was directed to keep in a horizontal posture on a bed; the knees to be slightly flexed, and supported in this posture, and never to be moved, excepting passively. Twelve to eighteen leeches every fifth day for the first six weeks. Occasionally a purgative. No animal food, and the quantity of food limited. The sequel of the case may be given in our author's words.

* Much as John bull is given to quackery, it would seem that his American cousin is still more so. Such personages as “bone doctors” are not to be discovered now in any town of size in England. In some rural districts, where intelligence is longest in penetrating, the bone-setter may still be found. Yet even there, he languishes, and is only indifferently supported by the ignorance and credulity of the lower part of the rustic population.

I heard no more from him for five months. He then sent for me. I found him pale and emaciated. He had severe pains in the bowels, and frequent bleedings at the nose. He had followed the course directed in every particular. I expressed my surprise that he should have undertaken to proceed so long a time without giving me an opportunity of accommodating the treatment to circumstances. He apologised by intimating, that being compelled to relinquish his occupation, he was without means of defraying more than the expenses of subsistence. From this time, I attended him regularly. I should have mentioned that the tumours were sensibly diminished. He was now directed to take a little meat twice a day—to drink from four to six ounces of wine, and 40 drops of tincture of sulphate of quinine every two hours. Whenever the abdominal pains were urgent, to take 30 drops of tincture of opium. Under this management, he recruited slowly; and at the end of four weeks the wine gave him headache, and was discontinued. Animal food was continued a month longer, and then seeming to disagree with him, was omitted. He now resumed the original course, with the exception of substituting injections for purgatives, and sometimes taking a little meat. After eight months' confinement, he was directed to use frictions of a stimulating liniment, and to have the limbs bathed twice a day in hot water and soap. Finding the tumour lessening regularly, when he had been confined a year, I directed him to bandage the whole limb, and to get out of bed once a day. This was followed, after two or three weeks' trial, with a thickening of the cellular substance between the hamstring muscles; in consequence of which he was put on the bed for a month longer, and then advised to get up and walk the room once a day. At the end of 15 months, he was able to walk a quarter of an hour at once. I now urged him to walk out; but his apprehension of reproducing the disease was so strong, that it was sometime before this could be effected. At last he got out, and increasing his walks very gradually, in three months he was able to walk to my house; and I had the satisfaction to find that all remains of the swellings were wholly dispersed. Since then, he has recovered his strength, and is now perfectly well." 94.

We suppose there can be little doubt that this was an instance of chronic inflammation of the tendon, or its sheath, or both. There is no evidence of any specific character having belonged to the tumor; and the progress and issue of the case are both opposed to such a notion. We cannot help considering Dr. Warren's treatment as rather, perhaps unnecessarily, severe. Had local depletion and counter-irritation been actively employed, we think that the rigorous regimen and absolute confinement might have been much mitigated. Such heroic treatment will, in many constitutions, induce diseases more serious than the local malady for which they have been instituted.

Dr. Warren relates a case of what he denominates fungus non hæmatodes. He does not appear to us to be sufficiently aware of what the experience of late years has satisfactorily determined, that the hæmatoid character of some fungous tumors is merely an accidental one, dependent on the general state of the individual, and on the existence of accidental blood-vessels of some dimensions. The medullary sarcoma, encephaloid tumor, and fungus hæmatodes, are only varieties of the same description of morbid growth, all being equally malignant, all having a disposition to fungate, and all, when fungating, having more or less of a tendency to venous hæmorrhage. We need not enter on the considerations which go to establish this conclusion. It is sufficient for us, at present, to observe, that in the minds of most pathologists, it is established.

Dr. Warren, too, would appear to have scarcely arrived at the practical inferences with respect to these tumors, which may be said to be received as

principles in this country. We have seen him operating on a scirrhus tumor in the abdominal parietes under circumstances which were highly unfavourable. In a case of fungoid tumor, growing from above the right knee, and extending from the superior edge of the patella upwards, for about three inches, we find the following operation resorted to.

"Finding there a deep-seated tumour, not discoloured, I was quite at a loss to determine what it was. One thing was clear, that it must be removed. The operation was performed in June, 1834. After making a free incision of the skin and cellular texture, I sought for the tumour. Instead of it, I found the extensor tendon of the muscles of the thigh expanded over the surface, and no way was discovered of getting under it. Of course, I divided the tendon longitudinally, and then came in contact with a white fungus more firm than fungus hæmatodes, but breaking in pieces when handled, and showing no disposition to bleed. Continuing the dissection, I found this fungus intermixed with fair looking fasciculi of tendinous substance, much interwoven with it, but of a totally different aspect from the tumour. Having followed its irregularities into the interstices of the neighbouring muscles, by a laborious dissection, I at length got out the whole." 97.

Now we think that many surgeons would have suspected that the tumor was of a fungoid character, and proposed amputation, rather than dissecting the tumor out. But whether they suspected that or not, we are pretty sure that they would have immediately decided on urging amputation, when they discovered that it was a fungoid tumor, and that it was disseminated in the contiguous muscles. Under such circumstances the satisfactory extirpation of the tumor became next to impossible, and the only reasonable chance of cure was from the removal of the limb.

It is now a canon in surgery, that under the most favourable circumstances which can be anticipated, the removal of really malignant tumors is any thing but a successful operation. The disease in a great proportion of cases appears in some other part of the body at some future time. This is found to be the fact when the complete extirpation of the morbid growth can be ensured—as in castration—the removal of the mamma—amputation of the affected limb. If such an operation, apparently so effectual, is unfortunate, *a fortiori* a less effectual one will be so. Hence the rule—to operate as early as possible—and, when a limb is the seat of the disease, to amputate. Hence, also, the rule not to extirpate fungoid tumors under circumstances which render their perfect removal precarious. We dwell on these points because it is, obviously, of the greatest consequence to the community that operations should be regulated by the best principles that our science enables us to arrive at.

If we refer to Dr. Warren's case we shall find, that, so far as one case can do so, it bears out what we have urged. The lady on whom he operated, re-applied to him in the Autumn of 1835, rather more than a year after the operation. The tumor had returned, regained nearly its original size, and was growing rapidly. She now refused amputation. Had this measure been sternly insisted on in the first instance, no delusive confidence would have been engendered in any other measure, and she might have assented, *might* have been saved. But this by the way. She desired a second removal of the tumor, and Dr. Warren consented. This operation nearly proved fatal. But she recovered from it and appeared to be cured. In the Autumn of 1836, the thigh again began to swell, a tumor formed in the

groin, another tumor was felt in the abdomen, it filled with water, and probably ere this the poor lady's sufferings have been relieved by death.

V. PERIOSTEAL TUMORS.

Dr. Warren makes some remarks on periosteal tumors, but they cannot be considered as complete. The following case of much thickening of the lower jaw from necrosis is worth reading.

Case. In 1835, a sea-faring man applied to Dr. Warren, on account of a tumor on his face. This was situated on the right side, extending from the edge of the lower jaw to the zygomatic arch, and had somewhat the form, and nearly the size of a lemon. It had existed a year; came on without any known cause; was colourless; quite hard; not attended with much pain, and made a formidable appearance. The patient's health was perfectly good. The disease had been suspected to be exostosis; osteo-sarcoma; fungus of the antrum. Dr. W. examined the mouth, and at length discovered a small aperture, leading to the lower jaw, a probe introduced into which struck on rough bone.

He was at once satisfied of the nature of the case. He made a perpendicular incision about three inches long, and laid bare the masseter; after dissecting through this muscle a semi-cartilaginous substance appeared; the knife with difficulty penetrated this, and being forced to some depth did not reach any thing of a different character. He then proceeded to excise this hard substance; and neglecting the circumference, cut out a mass an inch and a half square and an inch thick, from its centre. This being removed, a probe was passed, and struck a diseased bone. The aperture was then enlarged, a strong forceps introduced, and with some difficulty a dead piece of the lower jaw was extracted about two inches long, and comprising the whole mass of the lower jaw-bone for that extent. The wound slowly healed, the remainder of the hard substance was absorbed, and, in three weeks after the operation, the patient was discharged.

The next case may be quoted, chiefly on account of the singularity of the operation successfully performed for its cure.

Case. A gentleman, aged 40, had an abscess form on the right side of the chest, at the junction of the bone, and cartilage of the sixth rib, in consequence of a typhus fever, which occurred in the Summer of 1834. In the Spring of 1835, Dr Warren first saw the patient. There was an aperture about an inch deep at the part indicated, surrounded by an irregular hard substance for two or three inches. The probe after passing down an inch struck on a firm but not osseous substance, and could not be made to proceed deeper by altering its direction. The discharge of pus from the wound was small. In the succeeding Winter the pain increased about the ribs, and there was occasionally troublesome hiccough. The patient now made up his mind to undergo an operation, the dangers of which were fully explained to him. The operation may be described in the operator's own words.

"The aperture through which the probe passed, was opposite the junction of

the cartilage of the sixth rib, with its bone. It was about the sixth of an inch in diameter, and surrounded by a firm substance, which I at first supposed to be thickened and hardened cellular membrane. The plan which I formed for the operation was this. To make an incision four inches long, over the sixth rib, passing across the aperture. To cross each extremity of this wound with another, two inches long, at right angles to it. To dissect up the two flaps, expose the ribs, divide the intercostal muscles, and fascia, separate the pleura and diaphragm from the inner face of the ribs, and saw or cut through them. As happens in most operations, the execution varied considerably from the plan. An incision was made four inches long over the bone and cartilage of the sixth rib, and one at each extremity of the first, about two inches long. Proceeding to raise the flaps as proposed, I here met an obstacle. The skin adhered to a hard substance under it, so closely, that it was extremely difficult to raise the integuments, without cutting them in pieces. This being at length accomplished, the hard substance presented itself, covering the ribs and cartilages, and confounding the appearance of the bones, and cartilages in a mass of semi-ossified fibro-cartilage; so that I was at a loss how to prosecute the operation, in order to discover the seat of the diseased bone or cartilage. I proceeded in the following manner—The semi ossified matter was shaved off in successive layers, till it became so thin as to allow a strong director to be pushed in under this substance, and under the rib with which it was cemented; and passing it from within outwards, and from above downwards, for about two inches, between the pleura and the ribs, with this director for a guide, other portions of the hard matter were removed, till the diseased ribs and cartilages were sufficiently uncovered. About three inches of the bone and cartilage of the seventh rib, and somewhat less of the sixth were carefully separated from the pleura, and diaphragm, and cut out by the chain saw, and cutting forceps." 107.

No artery, of consequence, was wounded. A smart pleuritic attack occurred on the second day, but was checked by a copious bleeding. Subsequently, from over exertion, inflammation ensued below the wound, and suppuration was the consequence, succeeded by much induration and a fistulous opening. But the patient recovered from all, and is now quite well and strong.

It must be owned that the operation was a difficult and dangerous one, and its termination more fortunate than could be counted on.

VI. OSSEOUS TUMORS.

Dr. Warren adopts Sir A. Cooper's division of exostoses into the periosteal and medullary. It does not appear necessary to follow him in his observations, but we may pick out a remark or two.

A. In describing an operation for the removal of a large portion of the lower jaw, he offers the following hints on the construction of saws for the purpose.

"The saw employed was constructed for the purpose, and had the following dimensions: Length, two inches; breadth, two lines; thickness, one-fourth of a line; handle, four inches long, rough and thick; end of the saw rounded. This is the best kind of saw that can be employed for this and similar operations. The chain saw and the bow saw cut more rapidly, but catch and cause delay and embarrassment. Heys' saw is slow and laborious in operation. The rotatory saws are unmanageable. I think a saw half an inch longer, that is, two and a half inches long, might have been better. The great difficulty in the use of the

saw, in these cases, has led me to describe this simple instrument minutely, with the hope that it may be as useful to others as it has been to me. It is proper to have two or three of these saws, varying a little in dimensions." 114.

n. A man applied to Dr. Warren's father with an exostosis of the right cornu of the os hyoides, of a sugar-loaf form, about three inches in height. His father dissected the tumor to the os hyoides; exposed this bone, sawed it off near its base; and thus succeeded in curing the patient speedily and effectually.

Neither the observations nor the cases advanced under the head of medullary exostosis require more than mere mention. The next species of exostosis alluded to, is—*Maxillary Exostosis of the Spongy Texture*. The account which our author gives of this disease is brief.

"The spongy texture of the jaws, especially of the upper, is subject to inflammation and exostosis. Tumours of this kind are without much difficulty distinguished from periosteal exostosis of the jaws by this; that they are swellings of the substance of the bone, and not of its surface. The last is most commonly seen on the lower jaw; the first on the upper. Exostosis of the spongy texture of the jaw, is a hard tumour, of a rounded form: appearing on the external surface of the bone; producing a prominence of the gum, and if it attains a considerable size, of the cheek. It is not discoloured, nor painful. Enlarges rapidly at first in young subjects. This disease often begins in the bottom of an alveolus. A diseased action arises in the membrane, is propagated to the bone which swells in the outward or peripheral direction, commonly in the earlier stage of the disease, though it happens sometimes that the internal plate of the jaw becomes involved ultimately." 127

The tumor which our author describes is not malignant. It constitutes, in fact, that sort of tumor which may be, and which continually is, removed from the upper jaw, with a considerable degree of success. Our author relates several cases in which he operated and effected a permanent cure. But there is not sufficient novelty in such cases to induce us to extract them.

The propriety of ascertaining whether abnormal conditions of the teeth may not have given rise to these maxillary tumors, as well as kept them up when formed, has been frequently insisted on in lectures and in books. The advice is so important, that we are tempted to cite two cases of our author's that tend in a striking manner to enforce it.

Case 1. Some years since, Dr. W. was desired to see a young man, for a large sugar loaf shaped tumor of the cheek, of some months growth, perfectly hard and insensible. On cutting into it, a tooth was discovered in the maxillary cavity: after the removal of which, the bony tumor soon disappeared, and the cheek resumed its natural form.

Case 2. "In the year 1828, I was called to see a young lady, eight years old, who had a considerable tumour on the left side of the face. It was noticed three months before; had since increased much. It was very hard; not painful nor tender. No blow had been received on the part, and no cause was known for its existence. The tumour being in the situation of the maxillary cavity, and the process of dentition being at that time in activity, I suspected a tooth had slipped into the cavity, and advised not to do any thing at the time; and after watching the tumour for some months, seeing no increase, and nothing that could lead to the suspicion of malignity, I ceased to attend her, and heard no more of the matter until May, 1836. Her mother then informed me, that four weeks previous, a tooth had appeared on the inside of the upper jaw, within the

other teeth ; and as soon as this happened, the tumour in the face began to lessen. The tooth was extracted ; since which the relics of the swelling had been rapidly disappearing. The patient being now a fine handsome young lady of sixteen, felt very grateful to me for having spared her a bad scar, by cutting open the antrum." 133.

The next case is of rather a different description. Yet it, too, shews the influence exerted by the teeth in the production of maxillary tumors.

Case. A young lady, aged 28, of a nervous and scrofulous constitution, had the right superior cuspidatus tooth filled in 1834. About three months afterwards, she had a severe pain in this and in the bicuspid tooth behind it, which continued, with occasional remissions, until April, 1836, when she applied to Dr. Warren. When he examined the jaw, he found the cuspidatus tooth slightly loosened ; the last incisor, next to it, very loose ; a red tumor extending over the alveoli of these two teeth, and in a slight degree over that of the next incisor. No swelling within the alveoli. The surface of the gum presented an unhealthy ulceration, which extended to the membrane of the cheek.

Dr. W. prescribed regimen, laxatives, and cinchona as a local application without benefit. The ulceration increased, and Dr. W. thought it only prudent to remove the morbid structure. First, he took out the cuspidatus and the incisor teeth. Next surrounded the ulcerated part with an incision. Then with perpendicular cutting forceps divided the bone on each side, and by a horizontal forceps connected the two incisors, and removed the diseased bone. The whole operation was accomplished in three or four minutes. In December, 1836. the patient paid our author a visit. The jaw was quite sound, and the lost teeth had been replaced by artificial ones.

We may now turn to some practical observations on the mode of operating. They deserve attention.

"In the early periods of my practice, I removed the bone in these cases with the saw and chisel, and the operation was tedious and painful. In the year 1831, I first employed the cutting forceps, by which this operation was greatly facilitated. Since then, the ingenuity of my friend, Dr. Flagg, to which I have often been indebted, has greatly improved this instrument, in its application to the jaws. As the straight forceps are with difficulty brought to bear uniformly on the inside and outside of the jaw, he gave to these instruments, the hawk's bill form. One of these is made to cut vertically, and another horizontally ; by which the two kinds of incisions are rapidly and perfectly made ; and the patient suffers but little pain. The introduction of the cutting forceps into the surgery of the jaws, is a great practical improvement. Instead of the long and painful operations with the saw, they give us the power of removing a bony tumour from these parts in a few minutes. When the tumour is of some extent, they have not sufficient power. This defect may be remedied by a compound forceps, which bring in the aid of an additional lever."* 135.

Osteo-Sarcoma. This is a very indefinite term, and has been applied in an equally indefinite sense. Vague as are our ideas with regard to the nature,

* "Since the above was written, I have seen a pair of cutting forceps, from France, which cut at right angles from their shaft, and must be very useful, when the tumour lies far back in the mouth."

the forms, and the discrimination of the tumors of soft parts, they are pre-eminently so when we arrive at tumors of the fibrous and the osseous tissues. We know of no respectable account of the various morbid growths from periosteum and bone, an account which at the same time gives a good particular, and a philosophical general view of them. Such an account is a desideratum, and Dr. Warren's plan, founded on mere local considerations, is inconsistent with it. We must, therefore, take his remarks on osteo-sarcoma as they are preferred—a clinical report on the more remarkable facts that he has seen. The following is the description of the growth which he offers.

“This is a hard tumour, taking its origin from periosteum or bone. In external appearance, it has usually a firm consistence, a rounded form, extends over and appears to involve and bury the bone, from which it is derived. In colour it is like the skin commonly, though sometimes reddened, and exhibiting enlarged veins, like many other tumours of similar consistence.

Although hard in its early stage, as it increased in size, it acquires more or less elasticity, and of course softens as it grows. The consistence is, in fact, variable from day to day; at least in some instances. Whether this accidental change is caused by the different quantities of blood it may contain, or by a change in the amount of the fluids deposited in its cavity, I am unable to say. The size also has appeared to be slightly variable; but that such fluctuations do actually exist, seems questionable. A variation in the colour of the integument is not surprising; as the prominence of the part exposes it to friction, and the temporary increase of morbid action in the interior would affect the external covering.

The pain is not acute. A sense of aching is a common, though not invariable attendant.

A characteristic symptom of osteo-sarcoma is a tuberculated surface. The inequalities which cause this appearance are not produced by an intervention of plates of bony and cartilaginous substance. They are the masses of the unequally-thickened periosteum, which form the covering of the tumour. In osteo-sarcoma I have never seen bony plates excepting at the points where the tumour is connected with the bone. If, for example, the bone be cylindrical, bony fragments may be noticed at those parts where the extremities of the bone enter the tumour. At other points I have not seen them.” 137.

Osteo-sarcoma is, as Dr. Warren observes, very generally believed to arise from the reticular structure of bone. But in all the cases which he has seen, it has appeared to have its origin in the periosteum. The constituents of the tumor, according to his view of it, are three. 1. The bone on which the tumor is placed. 2. The periosteum. 3. The medullary fungus, contained in the periosteum. To these we must add a fluid of varying consistence, found in cells, in the interior of the periosteal cavity.

“First; the bone in most of these cases appears as if a part of it had been broken out, and the fractured ends are enlarged, or else the thickened periosteum gives them the appearance of enlargement. But this appearance is not universal. You may see in the case of Corey, the third case mentioned, that the rib from which the tumour originated was entire. Its surface only, shewed the origin of the tumour. Consequently, the tumour in this case must have had its origin in the surface; and this fact cannot be considered as a mere exception to a general law; it breaks up such a law; for if a true osteo-medullary tumour can be traced to a periosteal origin in one instance, we may believe it to have such an origin in others, unless the contrary is proved. Second; the periosteum in

these tumours exhibits an extraordinary activity of growth. It is quite vascular, and forming the surface of the tumour, is thickened in some parts to the extent of half an inch, and forms the protuberances characteristic of the tumour, as you may verify in this tumour of the clavicle and that of the rib. Third; the fungoid formation which constitutes the mass of the tumour, appears, so far as we are able to discover, to arise from the periosteum nearest the bone, whence it shoots in a pedunculated or arborescent form into the large periosteal cavity. So much for this short survey of the anatomical structure." 139.

It does not appear to us that Dr. Warren's reasoning proves his position. According to his experience, what he terms osteo-sarcoma originates in the periosteum. To support his statement, he refers to cases in which it seemed to do so. So far so good. But that does not prove that, in other cases, a similar tumour may not originate in the reticular texture of bone. We have seen cases in which it clearly did so, and had we leisure, we have no sort of doubt that, in a very few hours, we could cite recorded cases in which there was every proof, that can be obtained, of the same thing.

The fact is, that osteo-sarcoma, as our author has defined it, is nothing more than fungoid tumor, modified by the tissue from which it springs. Now, we know too well that this form of morbid growth may be developed, and is constantly developed in every tissue. Why, then, attempt to limit it to one? Why affect to determine that it only grows from periosteum or from the cancellated texture of bone? It grows from either, and these exclusive views have no foundation in nature, nor in a liberal reading of facts.

Dr. Warren attempts to point out a distinction between "medullary exostosis" and osteo-sarcoma. Such distinctions are only verbal. The wider our acquaintance with the morbid growths become, the less faith is attached to such nice discriminations. What one man chooses to call medullary exostosis, and to endow with certain characteristics, appears on paper to differ from what another terms osteo-sarcoma, and endows also with peculiar characters. But, in practice, cases continually occur which we are at a loss to refer to either the one category or the other, but which have the marks of both. We have seen, for instance, two cases of what may either be termed medullary exostosis, or osteo-sarcoma, growing from the cranial diploë. The evidence of that was perfect. If the characters mentioned by Dr. Warren are to be deemed conclusive of the presence of osteo-sarcoma, both cases were osteo-sarcoma; but then in both, the cancelli of the cranial bones were the seat of the disease. The truth is, that modern experience has gone some way in determining two things with reference to the morbid growths;—first, that many of the appearances that constitute varieties are deceptive, they not being sufficiently uniform, nor permanent; and, secondly, that our means of discriminating the actual varieties are unsatisfactory and unworthy of much confidence. What, for instance, can be more uncertain than diagnosis founded on such data as the following?

"How may this be distinguished from other tumours? From exostosis it may be known by wanting the hardness of the latter. From common periosteal tumour, by its greater size and more regular form. From scirrhus, situated on a bone, by being more closely connected with the bone. From medullary exostosis, in wanting the basket-like surface, caused by mixture of layers of bone and membrane. The history of its growth will aid in illustrating the distinc-

tions; yet, after all, there are cases in which it is impossible to ascertain with certainty what its nature is." 144.

The admission in the last paragraph eats up the value of the signs in its predecessors; and that admission is most true.

The only rules of practice at which, in the present condition of our knowledge, we are enabled to arrive are these:—*that*, those tumors which succeed or are accompanied by impaired constitutional powers, and which seem of unequal consistence, being soft in some parts and hard in others, are probably of a malignant character—*that* if there is an appreciable disposition to fungate, this probability is much increased, and if there have previously been, or are, other growths in other parts, of a malignant character, the probability may be said to be almost converted to a certainty—*that*, whatever the character of the growth may be, if it is clearly going on to mischief, it should be removed by operation, supposing, of course, that there are no peculiar local or general circumstances to prevent a resort to the knife—*that*, if the disease be pretty certainly malignant it should be removed, unless it extends so far as to interfere with a perfect removal, or unless there are reasons for believing that internal organs are implicated—*that*, if tumors of a fungoid, or, perhaps, if even of a common scirrhus character, be situated in the limbs, amputation, as the most effectual operation, should, *cæteris paribus*, be preferred to extirpation of the growth—*that*, under the most favourable circumstances, the fungoid morbid growths most frequently, and the scirrhus frequently, reappear, after operations, in some part of the body, and at an uncertain time—this tendency to reappearance being proportionally augmented by imperfect, late, or improper operations—*that*, our means of diagnosis, though generally accurate, are occasionally fallacious; tumors that seem *not* malignant returning after operations, and tumors that *do* seem malignant not returning—and, finally, *that*, the sum of these considerations appears to amount to little more than this:—our means of discriminating these tumors being imperfect, and our practice being founded on a vague calculation of mere probabilities, we are bound to lean to the side of hope, and to offer a patient the chances of an operation when it is not forbidden by some positive consideration. We say to offer a patient these chances, not to press them on him. The case we think should be stated fairly, or with a very little leaning towards encouragement. It is one thing to keep up a patient's hopes while suffering from disease, a practice which is one of our strongest remedies; but it is another thing to seduce him by fallacious assurances into encountering a painful operation, which will probably be worse than useless, because it will bring surgery itself into discredit. The profession, we say once more, is interested in putting down unnecessary operations. Ignorance, temerity, or the most brutal sense of self-interest, may make an individual reckless of high considerations of this kind, but, as a benevolent and a scientific body we are bound to denounce and to frustrate such heartlessness.

Dr. Warren relates three cases. The first is one of osteo-sarcoma of the clavicle, for which that bone was extirpated. We cannot say that we approve, under the circumstances, of the operation, but, as the operation itself must be deemed one of the greatest in surgery, it is only justice to Dr. Warren to furnish our English readers with an account of it. There can be no doubt that he presents a good specimen of a bold and dexterous surgeon.

Case. D. Smith, aged 24, farmer, admitted into the Massachusetts General Hospital, Nov. 1, 1832.

One year previously, in attempting to roll a heavy stick of timber over, he placed both arms under it, bringing his chest firmly against it at the same time. Immediately after it he felt a severe pain and an enlargement near the junction of the right clavicle with the sternum. After finishing his work, he applied to a physician for advice. The physician did not understand the case, but the swelling was lessened by warm bitter fomentations.—Continued to work, though his arm was quite weak, till the month of August last, when he quitted his labour, thinking he had “sprained the other collar bone.” The following month, October, the swelling began to increase rapidly, and became hard. At times he felt, as he thought, a “rubbing of the bones.”

Now he has a tumour measuring seven inches from sternal end of the right clavicle, in a line with this bone to the scapular end; from its upper boundary, viz. the clavicle, towards the nipple, five inches. Thinks it varies in size, being sometimes larger than at others. At times feels it pressing on the wind-pipe; it feels hard; there is no evident fluctuation; a pulsation is slightly perceived in it by stethoscope; some pains most of time; increased by using arm, or by coughing; pulse eighty-four; no sensible difference in the pulsation at wrists; general health not materially impaired, but constitution scrophulous and irritable.

On the 10th of November, the operation of removing the clavicle was performed. The steps pursued were the following:—

“The patient being placed on a table, the shoulders elevated, an incision was made from the acromial extremity of the clavicle to the sternal extremity of the clavicle of the opposite side. This was crossed by an incision at right angles with it, beginning just below the middle of the sterno-mastoid muscle, and extending to the face of the pectoralis muscle below the middle of the clavicle. The four flaps were then dissected from the surface of the tumour. Next, the outer extremity of the clavicle was laid bare, by dissecting the deltoid muscle from its anterior edge, and the trapezius from its posterior edge, and by the division of the coraco-clavicular ligaments. An eyed probe, armed with a ligature, was then passed under the clavicle, and the ligature being attached to a chain saw, this was drawn under, and the clavicle sawed through.

The separation of the tumour now began. A strong ligature being passed around the outer extremity of the divided clavicle, the tumour was partially raised by it, so as to give tension to the surrounding soft parts. The pectoralis major muscle was cut through, and dissected from the lower edge of the tumour, and drawn so as to expose the pectoralis minor and the cephalic vein. Now the dissection extending under the tumour, the subclavian muscle was distinguished and dissected from the tumour at its outer part, but at the sternal part it was lost in the tumour, where, of course, the dissection proceeded, over the surface of the subclavian vein. An adhesion of the tumour to the second rib, in which it was imbedded, prevented a perfect separation of this part until at the close of the operation.

The next step was to divide the attachments of the upper or cervical edge of the tumour. First, the posterior external jugular vein was divided and tied. It was filled below with a dense lymph, and discharged some red blood from above. Next, the sterno-mastoid muscle was cut across, and the sheath of the cervical blood vessels exposed. The internal jugular vein was perceived to pass from the neck into the substance of the tumour, in such a way as to render it difficult to

dissect it without dividing it. This, was however, accomplished, and the carotid artery and par-vagus nerve presented themselves. On reaching the internal extremity of the tumour, the anterior external jugular vein was found bedded in it. This was filled with solid lymph, and was tied, as it would not have been safe to have left it without a ligature. Nothing now remained to be done, but to separate the sternal end of the tumour from the corresponding part of the jugular and subclavian veins. By great caution this was safely accomplished, and the tumour removed. When this was effected, the whole extent of the subclavian, the lower part of the jugular vein and par-vagus nerve were exposed.

These being put in motion by the pulsation of the subclavian and the carotid arteries, presented a formidable appearance.

Little blood was lost in the operation. Only one or two arteries were tied, and the veins specified above. The flaps were brought over and retained by three sutures and adhesive plasters, so as to cover the wound perfectly." 150.

This was no doubt, a very formidable operation, and no doubt, it was performed, with great skill and great determination. The patient went on well until the thirteenth day, when "he was affected with chills," and pain in the epigastric region. The pulse rose from 80 to 112, "a nervous agitated state" succeeded, and, eventually, a slight delirium. On some days he appeared better, and in a fair way to recover; and this hope was not abandoned till the day before his death, which occurred on the 8th of December, in the fourth week from the operation.

Dissection. "A slight adhesion appeared at the point where the pleura corresponded with the wound; but this membrane, in the vicinity of the wound, was sound, and the lung not inflamed at that part. The inferior edge of the right lung was fringed with lymph. The lung of the other side had a more considerable effusion of lymph externally, and *in its substance two or three spots of effused lymph, near an inch in diameter.* A quantity of sanguineous fluid was discharged into the left cavity. The heart and pericardium were unchanged. The brain presented nothing remarkable. The viscera of the cavity of the abdomen were healthy, excepting a slight blush where the intestines were in contact, and an enlargement of the right kidney. The subclavian vein, the upper part of the axillary, and the cephalic veins, each contained a coagulum, which was of long standing, and adhered closely to the coats of the vessels." 152.

Dr. Warren mentions that three years subsequently he was informed by a person who had been a patient in the hospital along with this person, that he caught his fatal chill by leaving his room to pay a visit, when his nurse was absent. We would observe, however, that the affection which proved fatal to this patient was not mere inflammation of the lungs, but the "secondary deposits." The spots of effused lymph in the substance of the right lung, near an inch in diameter, are too characteristic to permit us to entertain a doubt on this head; while the "chills," or rigors, succeeded by quick pulse, a peculiar state of agitation, and symptoms that appeared so vague and fluctuating as to lead those unacquainted with the affection to anticipate recovery up to the very day before death, are quite as characteristic as the pathological appearances.

Now as these secondary affections constantly occur independently of any exposure to cold, and seem rather to depend on the kind of operation performed, than on any accidental circumstances of that sort, we must hesitate before we attach much importance to the individual's having quitted his room. Of all operations, those in which incisions are carried into the

deep cellular membrane, and those in which veins are much meddled with, appear to be most frequently succeeded by the secondary inflammations and deposits. In the present case both circumstances obtained. Large veins were cut, or tied, or exposed, and the cellular membrane under the deep cervical fascia must have been more or less interfered with. We are somewhat surprised at Dr. Warren's making no allusion to this common and fatal consequence of operations. Perhaps his attention has been little directed to it—perhaps it may not be as common in Massachusetts as it is in the large cities of Europe. It is only within the last 15 or 20 years that we have become acquainted with it, on this side of the Atlantic.

Here our limits compel us to stop for the present. Our ample extracts will evince our sense of the practical interest which attaches to the present work. It is essentially a clinical report on tumors, and has the merit which such reports possess, of presenting objects as much like nature as the signs of language can represent them. Its facts deserve to be perused by all, but especially by those who have not the advantage of hospital experience. To their charge tumors usually fall in their commencement, when sound opinions and judicious practice are of most importance. The bulk of the profession must necessarily, in some matters, have imperfect experience, such experience being only attainable where cases are presented in masses, as in hospitals. To supply, so far as the press can supply, the deficiency so felt by numbers of our brethren, has ever been, and ever will be our object. So long as we exist as journalists, our aim will be the diffusion of what we believe to be useful knowledge.

We shall return to this work in our next number. In the mean time, we return our thanks to Dr. Warren for enabling us to bring his labours under the notice of the profession in Great Britain. We are most anxious to cement the scientific union between the cousins of America and England.

I. MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London, for 1836, Volume the Twentieth.

II. THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Volume V.

III. ELEMENTS OF MEDICINE. Vol. I. ON MORBID POISONS. By ROBERT WILLIAMS, M.D. &c. &c.

THE major portion of the Papers in the former, and a considerable part of those in the latter of these three volumes, have been already noticed in previous numbers of this Journal. It only remains for us to complete our account of them.

I. OBSERVATIONS ON VASCULAR APPEARANCES OF MUCOUS AND SEROUS MEMBRANES, AS INDICATIVE OF INFLAMMATION. By JOHN YELLOLY, M.D. F.R.S. &c. &c.

Dr. Yelloly observes, with truth, that nothing is more important for the successful prosecution of morbid anatomy, than the habit of accurately connecting the phenomena which present themselves after death, with the symptoms which occur during life; and of carefully distinguishing between the varieties of form and appearance which exist in healthy parts, and such as are the result of derangement, or disease. He goes on to remark how necessary very careful attention and discrimination are, and how little disposed the best qualified pathologist sometimes feels himself to speak with decision on the nature of some appearances which come before him. Nothing can be more correct than are these sentiments, and all who are much acquainted with morbid anatomy, must have had sufficient opportunities of observing the confidence and decision of ill-informed persons on points of pathology which are really involved in uncertainty and doubt.

This is particularly the case with inflammation, a process so important that we ought to be thoroughly acquainted with it, and not always so distinct in its existence or its consequences as to permit us to speak positively with respect to either.

The characters of external inflammation are too well known to require repetition. It is known, too, because it is an object of sense, that death makes important alterations in the appearances which such inflammation presents. The redness goes off, except where effusion has taken place, and the remains of it are seen; while the tumor sinks, except in as far as any deposition in the cellular membrane has taken place, and may render it permanent. The blood, in fact, leaves, more or less completely, the arteries and veins, and all the phenomena which depended on its presence in them necessarily disappear in the same ratio.

"But," says Dr. Yelloly, 'in the internal organs, and more particularly the abdominal viscera, various modifications take place, from the peculiar situation which these parts occupy in the animal body. Being nearly connected with a double series of venous structure, that of the liver, and that of the heart, in which a considerable portion of the blood is concentrated after death, a retard-

ing or obstructing cause operates on the veins which belong to them, and which, added to the softness of texture to which I have already alluded, very generally produces more or less fulness of the vessels, and thus an appearance of more or less vascularity, both on the external and internal surfaces of the chylopoietic viscera." 10.

It follows, as a matter of course, *that* vascular fulness in the dead body is delusive—*that* it is not present, when undoubted inflammation existed during life upon the surface—*that* it is present in the interior from the operation of circumstances which did not obtain before death—and *that* a knowledge and a careful consideration of these disturbing circumstances is indispensable, to enable the pathologist to decide what appearances are and what are not inflammatory. A florid state of vessels after death, for example, has often been regarded as a proof of arterial congestion, yet it merely arises from the arterial character of the blood remaining in the veins, for some time after its transmission from their continuous arterial capillaries.

The profession must feel indebted to any one who puts it in possession of facts which will assist it in the discrimination of genuine inflammatory appearances in the interior of the body. It has been Dr. Yelloly's aim to offer that assistance, and not only on this, but on a previous occasion, he has laid the results of many careful investigations before the medical public.

In the fourth volume of the Medico-Chirurgical Transactions, published in 1813, will be found a paper by our author, on the Vascular Appearances of the Human Stomach, which are often mistaken for inflammation of that organ. We shall recapitulate what he laboured to establish in that paper, for two reasons: because the majority, perhaps, of our readers are unacquainted with them, and because the deductions are not only highly important in themselves, but are so interwoven with the observations in the present paper, that it would be unnatural and mischievous to separate them. Dr. Yelloly, then, in his first paper, endeavoured to shew.—

1st That appearances of vascular fulness in the villous coat of the stomach, whether florid or dark-coloured, in distinct vessels, or in extravasations of different sizes, are not to be regarded as unequivocal marks of disease; inasmuch as they occur in every variety of degree and character, under every circumstances of previous indisposition, and in situations where the most healthy aspect of the organ is to be expected.

2d. That from the circumstance of such appearances being in many cases not preceded by symptoms of inflammation, many authors of great eminence were led to the conclusion, that gastritis might exist in the living body, without the indications of either pain or pyrexia; that it was a very common and frequent complaint, even terminating occasionally in gangrene, though there were no indications during life of its existence: and that the absence of the usual symptoms of inflammation of the stomach, when unequivocal marks of such inflammation were supposed to be found on dissection, could not but be regarded as a very remarkable, and puzzling circumstance.

3d. That the same misconceptions attached to intestinal vascularity; and that MORGAGNI himself, in order to get quit of the difficulty, was in some cases disposed to attribute the absence of pain, in inflammation of the bowels, to a paralytic affection, which took off the sensibility of the parts; but that, as this was a circumstance which could but seldom occur, he came to the

general conclusion, that pain and fever were not necessary for the existence of enteritis. HALLER, too, was induced to infer, from so uniformly finding vascularity in his inspections, that inflammation of the bowels was almost constant in every kind of fever, and was frequent in every other complaint.

4th. That the supposition of a necessary connection between vascularity and inflammation, has led to erroneous conclusions in many cases of sudden death, where the effects of putrefaction, and the spontaneous changes which the loss of vitality produces on the human body, were misunderstood, and sometimes confounded with the proper and necessary operation of poisons.

5th. That some diseases of a very obscure nature, as hydrophobia, have been considered as examples of gastritis, and plans of extensive depletion adopted for their treatment, merely from the villous coat of the stomach exhibiting appearances of vascularity, though there was no palpable difference between such vascularity, and that which is ordinarily seen where there had been no affection of the stomach during life.

6th. That such vascularity is entirely venous, though sometimes florid, and sometimes of a dark red; that it depends on a power capable of being exercised on the artery itself at the close of life, which carries on the blood to the veins, after the further supply of fresh blood from the heart is stopped; and that the branched or stellated form of vessels, under which the vascularity usually appears, is capable of being imitated, whether by injection of the veins with fine injection, or by forcing back with the finger, or the back of a scalpel, the blood from the larger branches of veins into the smaller.

7th. That vascularity soon becomes diffused redness, by transudation through the coats of the containing vessels, just as happens with the bile in the gall-bladder, or in the speedy production of a blue colour, when the mesenteric arteries are injected with a solution of prussiate of potash, and the veins with that of green sulphate of iron.

8th. That digestion of the coats of the stomach after death, is by no means a common occurrence; inasmuch as extravasation does not take place in the great end of the stomach, however thin its coats may be, when fine injection is thrown into it, either by the superior coronary, or the splenic artery, as would be the case, if there were usually an erosion of the ends of vessels produced after death, by the action of the gastric juice, according to the opinion of Mr. HUNTER.

9th. That it is very difficult to ascertain, merely from the aspect of the vessels of a dead part, that they had been affected with inflammation during life, unless for the occurrence of unequivocal results of inflammatory action.

The preceding views are especially applicable to mucous surfaces—to the mucous membrane of the stomach in particular; then, to that of the intestines: then, to that of the trachea. It is the laxity of the mucous membrane which renders it so liable to vascular turgescence after death.

They apply, with modifications, to the serous membranes. These, in health, exhibit no vessels which carry red blood: when inflamed, effusion of coagulable lymph very quickly occurs.

On the surface of the brain and cerebellum vascular appearances often occur, which, like those already mentioned, are principally the result of venous accumulation after death.

The spinal marrow is so seldom examined, that its healthy and morbid appearances are not, in general, accurately known. In order to ascertain

the vascular appearances of the spinal marrow, uninfluenced by any disturbing cause except a particular mode of death, Dr. Yelloly examined it in three executed criminals. He subjoins a coloured drawing taken from one, and he adds, that—a florid vascularity, communicating a scarlet line to the whole column, is nothing more than venous turgescence, accompanied, as in the case of the stomach, depicted in his former paper, with slight extravasation.

Dr. Yelloly proceeds to examine and to criticise the foundations of the doctrines of Broussais and of Tommasini, the former of whom attributes general fever to inflammation of the mucous membrane of the stomach and intestines—while the latter regards it as essentially inflammation of the brain. The appearances on which these pathologists rely, as proofs of the correctness of their views, consisting essentially in increase of vascularity in the parts concerned, rather than in the presence of the undoubted effects of inflammation, we may readily conceive how delusive they may be. It is unnecessary for us to go into the question, for the hypotheses of Broussais and of Tommasini have been long regarded as fallacious. Morbid anatomy, the history of disease, and the effects of remedies, have all combined to shew how hollow such exclusive theories are.

Quitting Broussais and Tommasini, Dr. Yelloly turns to M. Andral, a more exact, a less speculative, and consequently, a more philosophical pathologist. In his earlier writings, M. Andral did not escape the error into which the former gentleman had fallen, and the appearances of inflammation and congestion were far from being distinguished with precision. But in his *Précis d'Anatomie Pathologique*, M. Andral has drawn the line more carefully and more accurately between the two conditions. It is well known that M. Andral has endeavoured to banish the term inflammation, and to substitute for it that of *hyperæmia*. In his nomenclature, inflammation is represented by *hyperémie active ou sthenique*—congestions, by *hyperémie passive ou asthenique*, when there is a diminished tone in the capillary vessels; *hyperémie mécanique*, when there is an obstacle to venous circulation; and *hyperémie cadaverique*, which occur after death.

His deductions with respect to the *hyperémie cadaverique* are very similar to those arrived at by Dr. Yelloly in his former paper, both in reference to its cause, the circumstances under which it occurs, and its liability to be mistaken for a morbid appearance. We quote the following extract from Dr. Yelloly's paper, because the criticisms on M. Andral's opinions, are not deficient in pathological value.

"He considers it," says Dr. Yelloly, "as established by his observations, that the hyperæmiæ which have come on during life, or after death, are not always to be distinguished from each other by their anatomical characters; and that simple inspection does not, in a great number of cases, suffice to determine the cause of sanguineous congestions found in pathological examinations. The gastro-intestinal membranes, he continues, may be indifferently white or red, according to the circumstances under which death has taken place; but as the circumstances which produce a red colour are most frequent at the close of life, it will oftener happen, that congestion of vessels in the alimentary canal will be found in the dead body, than a want of colour. It does not follow, however, he adds, that a red colour is any proof that disease existed in the alimentary canal during life; inasmuch as an intestine found to be red in the dead body, was not necessarily so during life:

M. Andral attributes the position of intestinal congestion, with Messrs. Trousseau and Rigot, to the mechanical descent of the fluid blood, according to the posture which the body is made to assume after death; and in one case, where the vascularity was in the anterior part of the stomach, owing to the body lying on its back, he was disposed to refer the appearance to *gastritis*, which, with much candour, he states he should not do now. That this cause operates, to a certain extent, in producing the phenomenon in question, particularly when the larger vessels are concerned, is quite certain; but, though I have remarked, that vascularity is found 'principally in the posterior part of the great end of the stomach, and in the lesser curvature,' yet nothing is more common than to see great turgescence of vessels on the upper surface (in relation to the position of the body) both of the intestines and brain; and it occurs everywhere in the minute vessels of the inner membrane of the stomach and bowels, where an attraction is exercised between the coats and their contents, which prevents any material change of position in the latter.

M. Andral is disposed to refer the transudation which takes place through the sides of vessels some time after death, to *putrefaction*. But I see no reason to alter the opinion which I have expressed on this subject, namely, that 'putrefaction will doubtless increase, but it does not seem at all *necessary* to transudation.' The animal fibre has a power to resist the passage of a fluid during life; but very soon after death, and long before putrefaction can be considered as having at all taken place, the power is lost, and various well known phenomena speedily occur in every part of the body, which are dependent on that unknown and inscrutable change, which the loss of vitality has effected in the animal machine. Transudation of bile from the gall-bladder, and of blood into the thoracic or abdominal cavities, are among the commonest examples; and the veins of the stomach and bowels will exhibit the same appearance in a day, or day and a half from death; but in a still shorter time if an inverted vascular stomach is extended upon a flat surface, and kept moist and undisturbed. I may mention too, as an additional proof of the same circumstance, the point mentioned at page 4 of this communication; and may add, that the same will happen in a tied carotid artery or intestine, containing either of the fluids employed, and made to dip into a vessel containing a portion of the other." 22.

There is a point which deserves some notice, because we cannot doubt that inattention or ignorance respecting it has not unfrequently led to error. It is this. The follicles which are sometimes exceedingly distinct in various parts of the stomach may readily be mistaken for minute ulcerations. To avoid that mistake it is necessary, of course, to keep the liability to it in view. Dr. Yelloly suggests, as a mode of determining the nature of the case, the employment of a minute injection. If there was ulceration, the injection would be extravasated. We fear the test is of too difficult application to be generally employed, and that the most practical recommendation is, to use great care in distinguishing the real state of the parts.

Dr. Yelloly alludes to the opinion of Otto, Trousseau, Rigot, and Billard—opinions which correspond more or less exactly with his own, and he adds:—

"It would have saved them, however much labour, and perhaps, to a certain degree have modified some of their deductions, had they been so far acquainted with our Transactions, as to have known what had been done in this country on the same subject. Life is, indeed, too short, and the difficulties which attend the prosecution of philosophical inquiries too considerable, to afford that there should be no division of labour in science; and that men of talents and energy should occupy themselves in investigations which have already been prosecuted

in other quarters, without being aware of what has already been done on the same subject. Science is common property, of which every one may avail himself at his pleasure; but the talents of able men belong also in a certain degree to the public; and it is a species of duty for such as are qualified by their abilities and industry, to enlarge the boundaries of science, to employ themselves in the most provident manner possible for the common benefit."* 27.

We have quoted this passage, because it represents a fact which should be known. We are amongst the last who are likely to undervalue the labours of the French in science, and, more particularly, in pathology. But their very success has tended to encourage that vanity which is said to be their national characteristic, and to make them undervalue and neglect whatever is not done by themselves. The ignorance of the French, in reference to the state of medicine in this country is preposterous. Whilst they are behind us in all that is practical, with the exception of the mere *performance* of operations, they exhibit, if they do not affect, an utter indifference to our labours and our existing knowledge, and rarely notice either, unless it be to misconceive or to mis-state them.

The consequences are such as might have been expected. Even in pathology we daily see facts or opinions published as novelties by French writers, when they have been long anticipated here.† In practical medicine and surgery, we see plans of treatment proposed and lauded, which experience in this country has already sanctioned or condemned. We find ideas of disease prevailing undisturbed in France, which science has exploded in England.‡ And, finally, we are visited every now and then, by some French tourist, who, knowing little of our language, nothing of our literature, ignorant of our practice, and incapable of understanding it—pays a hurried visit to a few hospitals, where he sees not much, and comprehends much less—yet, is so charmed with his own sagacity, and so contented with his amount of information, that he publishes on his return to his own country, a full, and of course an accurate account of the medical science and practice of this.§

* "Considering the almost national character of the Medico-Chirurgical Transactions, it is very remarkable how little they seem to be known among the best French medical writers, even in reference to some of our most distinguished names. A curious exemplification of this occurs in Cruveilhier, who informs us in the 3d livraison of his *Anatomie Pathologique*, (pl. 6, p. 10) that he lately made a very convincing experiment ('une experience bien convaincante'), to prove, that disease on one side of the spinal marrow, produces its effect on the same, and not the opposite side of the body. But the point had been examined many years previously by Sir Astley Cooper, at my request, in consequence of the contradictory evidence on the subject; and a similar conclusion, confirming a valuable experiment of Galen, arrived at by direct experiment on a dog, of which an account was published by me in the first volume of the *Medico-Chirurgical Transactions*, p. 197."

† MM. Bouillaud and Magendie have, on several occasions, been convicted of this neglect of English medical literature

‡ The French constantly treat chronic inflammation of the testis as cancer. They retain the terms and the ideas of white swelling, &c.

§ A Lyons surgeon lately gave a striking example of the assurance resulting from profound ignorance of all that a traveller, who affects to describe a foreign nation, should know.

II. ON THE EFFECTS OF MORBID POISONS.

1. *On the Treatment of Injuries received in Dissection.* By R. A. Stafford, Esq. Surgeon to the St. Marylebone Infirmary.

The effects and the management of dissection-wounds, possess, of course, a painful interest for ourselves. They are the capitation tax we pay for knowledge, and we are naturally concerned in rendering it as light as possible.

Mr. Stafford fairly states the case, and takes, we think, the most reasonable view of it in the following introduction to his paper.

"Three opinions have prevailed in the profession regarding the nature of the symptoms resulting from these injuries: one, that a peculiar virus is introduced into the system, which so influences the nervous and vascular functions, as to occasion the alarming symptoms; another, that the latter depend on the nature of the part injured, as in the case of puncture of the sheath of a tendon, &c.; and a third, that impaired general health preceding the accident is the cause of the symptoms.

We may admit constitutional predisposition in all cases; but it appears to me that the phenomena can only be satisfactorily accounted for on the first supposition, that of the introduction of an animal poison. For we find the most alarming and rapidly fatal cases to occur where there has been but a slight abrasion or scratch, as well as where a deeper wound has been inflicted by the point of the scissors, the hook, or the scalpel, so as to render questionable the probability of wounding the sheath of a tendon. Further, many cases are recorded in which no abrasion, scratch, incision, or puncture was noticed, or any evidence of such injury found on the most minute inspection of the part; consequently some deleterious poison must have been absorbed by the skin. I shall produce remarkable instances of this mode of receiving the injury. It is also a curious fact, that in most of the cases recorded by Dr. Duncan, Dr. Colles, Mr. Travers and others, and where the symptoms were the most severe, and the result fatal, the wound was generally no larger than a puncture by a needle, or a slight abrasion." 51.

We do not understand how some persons can contend, that the phenomena which result from dissection-wounds are not referable to inoculation with a morbid poison. The evidence is of the same description as that which is received as proving inoculation with other morbid poisons. It is true that there are some differences between the consequences of dissection-wounds and the consequences of other poisoned wounds, but those differences are rather of quality than kind. It must be recollected, that the resemblances between the phenomena occasioned by various morbid poisons are not close, each poison appearing to act by special laws. It is not just, then, to try one by the formula of another, and to insist on slight discrepancies as subversive of their analogy and their relationship.

The strongest argument that has been advanced against the agency of a specific poison in dissection-wounds, is the necessity for a certain constitutional state on the part of the recipient, in order that certain consequences may ensue. It has been argued that these cases usually occur at the termination of a scholastic session, when the constitutional powers of students are impaired.

This argument, however, has been overstrained, for there are, unfortunately, too many instances of individuals dying of dissection-wounds, who, previous to the reception of the injury, were, to all appearance, in good health. And, granting, to the argument all the force that is claimed for it, it still goes no farther than to shew, that, for the poison to act seriously upon the system, the latter must be debilitated and unable to resist it. This is quite consistent with what occurs when individuals are exposed to the action of other morbid poisons. Nothing can be more certain than that, *cæteris paribus*, the more impaired the constitutional power, the more likely a person is to be affected by a morbid poison, and, when affected, to suffer severely.

But there is another law which interferes with the one we have just stated, and involves the subject in much of the obscurity which unhappily distinguishes it. It is the law of predisposition. The facts on which we ground its existence are ultimate facts, and incapable of explanation. The final cause is obvious—the *quomodo* unintelligible. We know *that*, of a number of persons exposed, at different times, to the influence of a morbid poison, some will be affected by it at one time, some at another, and the majority not at all—that those who resist it upon one occasion, may, under apparently similar circumstances, be incapable of resisting it on another—that, of those who are affected by it, some will be so in a slight degree, and others, commonly the minority, in an excessive one—and, finally, *that* appreciable constitutional states will not explain this predisposition or indisposition for the reception of any particular poison.

It is clear that if there were no law of predisposition, either pestilences would never have existed, or they would long ago have depopulated the earth. Why pestilences should come, why morbid poisons should be generated, we do not take on us to say, but we would observe that, the necessity for death being granted, pestilences and morbid poisons would naturally seem to spring from the operation of those causes by which death is effected; and that they are the consequences of such natural causes, is rendered still more probable by their diminution, in consequence of the improved physical and moral habits of nations. Setting aside, then, the question why some should be constitutionally liable to suffer from the operation of morbid poisons, we must be grateful to the great Origin of all things, that the majority of men are not. It is here, as we observed, that the final cause is intelligible, and if there is an interruption to the operation of natural causes, it is for the preservation and not the injury of the animal creation.

Another argument which has been advanced against the supposition of the operation of a specific poison in cases of dissection-wounds, is, the variety of effects to which it must be admitted to give rise. In one person the punctured part will merely fester—in another, inflammation of the absorbents will ensue—in another, there will supervene diffuse cellular inflammation and extensive suppuration—in another, there will be a peculiar train of symptoms rapidly terminating in the destruction of the individual. It has been said that, in persons of bad constitutions, or, sometimes independently of any tangible constitutional vitiation, the simplest injuries will give rise to many of the consequences, which, in cases of dissection-wound, we attribute to the action of a poison.

But it may be observed, that injuries so slight as dissection-wounds almost

always are, rarely give rise to any mischief at all, and, even when they do so, occasion no more than inflammation of the absorbents or cutaneous erysipelas. Nothing can be less common than severe diffuse cellular inflammation from a mere prick or scratch of a needle; and no one has seen an ordinary injury of that description succeeded by those strange and fatal symptoms which are too frequent after wounds in dissection. In fact, we may state it as a general proposition that, in ordinary wounds, the effects are more or less in the ratio of the appreciable amount of injury—while in dissection-wounds they are quite out of proportion to it.

It may be urged that this argument by no means proves that the slighter consequences of dissection-wounds are the result of inoculation with a specific poison. That is true, nor have we any means of determining the point. We may infer, if we are inclined, that the slighter and the ordinary as well as the graver and extraordinary sequelæ depend on the same or on a similar cause, the effects of which are modified by disturbing circumstances; but the former supposition does not rest on the same amount of proof or probability as the latter does. We must admit one of three things—*that*, the same poison will, under different circumstances, produce all the different phenomena, which we observe in cases of dissection-wounds; *that*, there are several poisons; or *that*, only the severer cases are to be regarded as the produce of inoculation with a specific poison, the slighter ones being merely instances of the effects of common irritation acting on a peculiar state of constitution. There are difficulties attendant on the reception of each of these hypotheses. But the last, whether strictly true or not, agrees best with practical experience, and best explains the results of treatment.

Having made these few remarks, and endeavoured to clear the way for Mr. Stafford's cases, we shall now proceed to them. He relates six, of which only one proved fatal. We shall notice the more important.

Case. 1. Dr. Sims dissected a brain on the 1st of March, 1833. He was not aware of having pricked himself in any way.

At 4, a. m. of the 2d, he was awoke by pain in his right fore-finger. He got up and took a five-grain dose of calomel. At 8, a. m., he sent for Mr. Stafford. There was then an elevated spot on the inner surface of the second phalanx, resembling the bite of a gnat, but there could not be discovered in any part of it, not even by a magnifying glass, the slightest trace of a puncture. The finger was extremely painful, and considerably swollen and inflamed. The inflammation of the absorbents extended in two or three distinct lines along the inner side of the fore-arm nearly up to the ulnar side of the elbow-joint. The pulse was hard and at ninety, having that thrilling or jerking stroke which indicates constitutional disturbance; the tongue was coated by a dirty white fur, and the skin was somewhat hotter than natural. Eight leeches were applied to the finger; an evaporating lotion on the fore-arm, and a senna draught taken. From the rapid progress of inflammation of the absorbents, the case put on an increasingly unfavourable aspect. Between twelve and one Dr. Lee called upon him; he was then much worse. The pain in the finger had greatly increased, and the inflammation of the absorbents had extended nearly to the axilla. The pulse was small and irregular, wavering from 120 to 130. There was a peculiar physically anxious expression of the countenance, accompanied

with a nervous tremor over the whole frame; the voice was tremulous, and occasionally there was a transient incoherency, which, however, Dr. S. appeared conscious of, and could immediately command. In addition to these symptoms, he suffered a most excruciating pain in the lumbar region, which caused a constant involuntary tremor and twitching of the lower limbs, and more particularly on the right side. In fact, the whole nervous system appeared to have received so great a shock, that the symptoms almost resembled those produced by the bite of a venomous reptile.

The nitrate of silver was rubbed on the arm along the course of the absorbents, and Sir A. Cooper and Mr. Lawrence were called in. The latter only could at first attend, which he did between two and three, p. m. The symptoms had then increased. There was extreme depression of the nervous system, and there were convulsive twitchings of the lower limbs. Twenty more leeches were immediately applied to the finger, and along the course of the inflamed absorbents; the hand and arm were afterwards well fomented. Twelve grains of the compound powder of ipecacuanha were taken, but immediately rejected. A fourth of a grain of muriate of morphia in solution was therefore substituted. An aperient was also exhibited.

At 8, p. m., the pain and nervous symptoms were somewhat diminished, but the finger was still more swollen and tense, and the palm of the hand and third phalanx were swollen too. The bowels had acted.

A deep longitudinal incision was made along the flexor tendon of the second phalanx, but no pus escaped. To continue the fomentation, and apply twenty more leeches to the hand and absorbents. Repeat the muriate of morphia as often as occasion may require.

March 3d. 4, a. m. After the leeches had been applied and the morphia taken in the evening, Dr. S. dozed for an hour or two. When the muriate of morphia had been taken half an hour, all the symptoms abated. The pulse was reduced from 130 to 100, and beat with a firmer stroke. The tremors were lessened and the pain in the back and hand considerably diminished. The effect of the morphia had now ceased; the pain in the hand and particularly the finger was excessive. The pulse had increased to 140, and wavered irregularly. The tremors and twitchings of the limbs were still more violent than they had been, and the pain in the back excruciating. The depression of the nervous system was even greater than it ever had been; so much so, that unless relief could be obtained, a speedy dissolution might have been expected. Half a grain of the muriate of morphia was immediately given. The effect was remarkable. In five minutes it began to act. The pain gradually diminished, the pulse fell to between 90 and 100, and Dr. S. fell asleep. In two hours, however, the symptoms began to return, and the same dose of morphia was administered with the same good effect. It was ordered to be repeated every second hour, as long as the symptoms demanded it.

8, a. m. The hand is in much less pain, but the swelling on the third phalanx and in the palm has increased. The other symptoms rather mitigated. Twenty leeches to be applied to the absorbents and most painful part of the hand; to continue the morphia, the fomentations, and poultice. He could take nothing but soda and seltzer water, with an occasional cup of tea.

During the day, all the symptoms were alleviated, with the exception of

the pain in the hand, which remained the same, and of the swelling of the third phalanx, which was greater and more tense. Twenty leeches to the hand and absorbents. The other measures to be persevered with.

March 4, 8, a. m. Passed a better night, and is improved in all respects. Pulse 98. Bowels have not acted. The third phalanx of the finger is more swollen and tense.

At 3, p. m., the pain, swelling, and tension of the finger, had still farther increased, and slight fluctuation could be felt on the third phalanx. A deep longitudinal incision was made into it, and pus escaped with the blood.

We need not pursue the details farther. On the 5th, an opening was made into the palm of the hand, and matter was let out. In a day or two the several wounds in the finger were laid open together, so as to make one continuous incision from the point of the finger into the palm of the hand; this gave great relief by removing the excessive tension of the parts. Several other collections of matter formed in different parts of the palm, and were opened as soon as discovered.

From this time the constitutional symptoms gradually abated. The inflammation of the absorbents subsided, and the openings made into the finger and hand discharged pus freely. Poultices were constantly applied and the hand frequently fomented. The morphia was gradually diminished in quantity. His diet was improved, and tonics administered. Dr. S. was at length able to go into the country, and after an illness of six weeks he was restored to his usual health. In defiance of all treatment the flexor tendons sloughed, and consequently, when the wounds were healed, the finger remained motionless and stiff.

We have not much curtailed this case, because it is a highly interesting one. The points which deserve attention are the following:—1, There was no discoverable puncture nor abrasion of the cuticle. It would appear, therefore, that absorption took place through the skin. In one of the cases detailed by Dr. Duncan, a similar circumstance occurred. Mr. Stafford communicates another, of a similar description. In our own person, we have twice suffered from inflammation of the absorbents and violent pain, with redness and swelling in the finger, not succeeded by suppuration, but in neither instance were we aware of having suffered from either a wound or cuticular abrasion, nor was the slightest trace of any to be found. We think; then, that so far as evidence can go, it establishes the fact of contamination by a morbid poison in dissection, independently of any lesion of parts in the recipient. When we recollect the mode in which syphilis can be transmitted, we must cease to feel any surprise at this.

2. The rapidity of the progress of the symptoms in this case was striking. As Mr. Stafford observes, at four o'clock in the morning Dr. Sims first felt pain in the finger; at eight o'clock it had swelled to nearly double its usual size, and the absorbents on the fore-arm were inflamed; and at twelve the inflammation had extended to within two inches of the axilla.

3. The affection of the nervous system was remarkable also. Is that to be attributed to the action of the poison, or to the constitutional peculiarity of the individual? Whichever was the case, the effects of the muriate of morphia were most gratifying, and should be borne in mind in the management of similar cases hereafter.

4. We cordially agree with Mr. Stafford in the following remarks. They

refer to a most important, because a practical point, and we would enforce in as strong terms as language can afford, the necessity of attending to it.

"This case illustrates one important point, the necessity of making an opening as early as possible into a swelling where matter is suspected to be formed. Before the openings were made, the pain was excessive, and the irritative fever was kept up by the confinement of the pus and tension of the part. As soon, however, as the matter, although in so small a quantity, was let out, the pain was relieved, and the symptoms gradually abated. It was extremely difficult for some time to ascertain whether pus was formed or not in the third phalanx, and in the different points of the palm of the hand. Sir Astley Cooper and Mr. Lawrence were both a considerable time before they could satisfy themselves on the question. At length, however, an indistinct fluctuation could be felt; an incision was made into the part, and a small quantity of pus, deep seated, escaped with the blood,

Seeing the extreme difficulty of ascertaining whether pus is formed or not in all cases of severe injury of this description, I would recommend that an opening should be made into the suspected part where there is considerable tension, with much irritative fever, accompanied with a depressed state of the nervous and vascular system. In the first place, should the swelling contain matter, instantaneous relief would be given by its being let out: secondly, should such not be the case, the extreme tension of the part will be relieved, and also the distress occasioned by it; and lastly, the blood-vessels of the part will be unloaded."

The next case is so illustrative of the value of the plan to which the preceding quotation refers that we introduce it to the notice of our readers.

Case 2. In Dec. 1831, Mr. Pierce, the late assistant apothecary of the St. Marylebone Infirmary, opened the body of a woman who died from puerperal fever. He was not aware at the time that he had wounded himself, nor was there any previous wound on the hand. When he rose on the following morning, he found himself very unwell, being languid and feverish, with pain in his head. In the evening of the same day, he complained of soreness and pain in the axilla, to which leeches were applied. Fomentations and poultices, fever medicines, and aperients were employed, but the swelling increased, and spread generally to the glands and to the cellular membrane surrounding them. On the fourth day there appeared a general enlargement of the same side, extending from the third rib to about three inches above the ilium. The part gradually became more tense, and there was a deep reddish blue appearance on the surface. No fluctuation could be discovered, and no prominence at any particular part of the enlargement. The constitutional symptoms now put on a very alarming character; the pulse was 140 and fluttering, there was extreme nervous depression, anxiety and distress of countenance, dry tongue, restlessness, low delirium, and dyspnœa.

At a consultation of several physicians and surgeons, it was concluded to delay opening the swelling, as there was not complete evidence of the presence of pus. The poultices were ordered to be continued, and wine and other remedies given to allay pain and support the system. During the night all the symptoms became worse, the pulse weaker, and it was evident the patient was fast sinking. In the morning, as the only remaining chance

of saving life was to open the swelling on the side, Mr. Mayo made an incision nearly an inch deep and four in length into it. No pus escaped, but it bled very freely. From that moment, however, Mr. P. was relieved, and all the symptoms abated. In two days, a profuse discharge of matter made its way out from the bottom of the wound, and its quantity was so excessive that he became greatly reduced and exhausted. He was consequently allowed wine in considerable quantity, bark, meat, porter, strong beef-tea, and gravy, and, in short, nourishment of every description that the stomach could bear, and such as circumstances required. The abscess in the side communicated with that of the axilla, beneath the pectoral muscles. The discharge continued, for nearly two months, and, at the end of three months, Mr. P. recovered.

In this case the benefits derived from the incision would seem to be distinct, and it was probably owing to that incision that Mr. Pierce's life was preserved. These cases partake more of the character of diffuse than of phlegmonous inflammation, and we all know that it is not the presence of pus which determines the propriety of incisions in the former case; they are made to relieve tension, discharge blood and serum, and to afford an issue to matter whenever it *shall* form. To apply the practice of early incisions to cases of diffuse inflammation from dissection-wounds, is merely to apply to them a recognized principle in surgery.

Three other cases are detailed by Mr. Stafford, but they present no features of sufficient importance to detain us.

The last part of his paper is occupied with the consideration of the treatment of these cases.

His suggestions are not numerous. He advises the application of the *argentum nitratum* across the course of the absorbents, so soon as the signs of absorption have appeared. Probably this would do no harm, and probably it would not do much good. Leeches, fomentations, poultices, the muriate of morphia for nervous symptoms if they shew themselves—sudorifics, &c. for the fever—aperients, early incisions, support when the patient is suffering from extensive suppuration: such is the category of remedies reasonably recommended by our author.

But one point requires more specific allusion. It is the employment of general bleeding. Mr. Stafford is averse to it, and we cordially agree with him in his repugnance to its use. The milder cases do not require it. The severer ones are not examples of the pure phlegmasiæ, but either there are grave nervous symptoms from the general depressing influence of the poison, or it has exerted a more local though still a specific, effect, and given rise to extensive diffuse inflammation. Surely neither the one case nor the other is adapted for venesection. Analogy is against it. General bleeding has been found, by reiterated experience, to be injurious in diseases occasioned by other morbid poisons, and it has been found to be on the whole injurious in ordinary diffuse inflammation. It is true that Mr. Lawrence has written a long paper in its favour, but whether Mr. Lawrence himself continues to hold or to apply the principles he advocated in that paper, is doubtful; and, whether he does so or not, we are sure that the best surgeons in London have arrived at precisely opposite conclusions. The direct evidence against general bleeding in cases of dissection-wounds, though from the nature of the subject difficult to be got at, and far from logically conclusive, is con-

siderable. As Mr. Stafford observes—on referring to the cases published by Dr. Duncan in the Medico-Chirurgical Transactions of Edinburgh, it will be seen that several of the patients suffering from injuries from dissection were bled; in many of these cases the patients died; they never appeared to rally after the bleeding. We dwell on this point, because we believe it to be one of great importance. Perhaps there is no point of more consequence, certainly there are few of more difficulty than to determine the inflammatory diseases that will and that will not be benefited by active depletion. It would be impossible for us at present to examine a subject so comprehensive and so intricate, but we may observe that the greater the tendency on the part of the inflammation to become diffuse, the less will it be benefited by vascular depletion, and especially by general bleeding. That tendency to diffuseness argues, of itself, impaired constitutional powers, and whether the debility be the result of other and ordinary causes, or the effect of a specific poison, would appear practically to matter little, the individual, in either case, being incapable of supporting measures of a very lowering character. Whether it be scarlet fever, small-pox, diffuse inflammation after a compound fracture, or diffuse inflammation from a dissection-wound, bloodletting, if carried to any extent, is prejudicial, and serves only to lower the powers of the system, powers which are necessary to throw off the disease or its consequences.

There is another element in the consideration of the propriety of venesection, which is alluded to by Mr. Stafford, and which should be always weighed in discussions of this nature. It is the reflection that there will be sequelæ to the morbid action in existence, and that those sequelæ will make a large demand upon the patient's strength.

In some of the phlegmasiæ we know by experience that copious depletion will arrest the inflammation, or so modify it that its consequences will be comparatively trivial. So we do not hesitate to drain a patient of blood in ordinary pleurisy, or peritonitis, or phrenitis. Suppuration is not a necessary, or, in other words, not a common consequence, and we do not therefore dread it, or provide for it. But in diffuse cellular inflammation, we know, by experience, that venesection does *not* cut the matter short, that suppuration is a common consequence, and, such being the fact, it is surely most unreasonable to exhaust a patient, and render him incapable of sustaining the severe and protracted struggle in prospective.

The objections which have been urged against general bleeding do not apply with the same degree of force to local bleeding. This tends, when employed with judgment, to diminish the inflammation, and to limit the suppuration. Of course, it is experience only which determines this, for, *a priori*, it would have been impossible to have pronounced that one species of depletion would be serviceable, and that the other would not. But we are not satisfied that even local bleeding may not be carried too far. General bleeding is injurious because it weakens the powers of life. If local bleeding is pushed to a great extent, there is no reason why it may not do the same thing. Its presumed utility is its power of unloading the vessels of the part in a greater ratio than it weakens the whole system. The object, then, must be to stop at the point at which it has effected its proper purpose—an object of difficult attainment, for which no rules can be given.

If we sum up the leading principles of treatment in these severe and interesting cases, they may probably be comprised in the following axioms—local depletion—early incisions—regulation of the secretions—sedatives when nervous symptoms, are severe—support when the powers of life are failing, or when they are called on for great exertions. Such are the maxims which experience, so far as it has gone, and our present amount of knowledge point out as the best for general adoption.

2. *Case of Glanders in the Human Subject.* By James Johnstone, M.D. of Birmingham.*

That diseases originating in lower animals may be communicated to man, is a proposition which cannot admit of doubt. Not to mention other, less positive instances, hydrophobia and cow-pox are familiar and unobjectionable ones. Of late years, several cases have been recorded, in which glanders has appeared to have been introduced into the human subject, either by direct inoculation, or in some less obvious manner.

It must be owned, that all the recorded cases have not been satisfactory, and that not only has the evidence of inoculation been occasionally inconclusive, but the morbid phenomena themselves have been too various to admit of any accurate generalisation at present. We are reduced, therefore to fall back on observation, and to accumulate as many facts as possible.

Dr. Johnstone, one of the ornaments of the Provincial Association, has reported such a fact in its Transactions. We shall present an account of it.

Case. W. W. æt. 40, a groom, of temperate habits, was admitted into the Birmingham Hospital, on the 12th of July, 1836.

He complained of severe gnawing pain in the right knee, which was very tender; and small red lines, which seemed to follow the tracks of the absorbents, were visible on the inside of the thigh; but the part was not swollen. The right elbow was slightly swollen, and the skin had a deep pink colour; but he suffered little pain in this joint except when pressed. The appetite varied; and he was more thirsty than usual. Bowels regular; urine plentiful; tongue clean and moist at the apex, but very foul at the root. He said that he had no headache, but the pupils of the eyes were much dilated, and the countenance was expressive of anxiety. Pulse 120, small, and weak. The conjunctiva was slightly yellow, and the skin cool, except around the right elbow.

On the 14th, the swelling of the elbow, which had been fomented, had nearly subsided, but the knee was more tender and inflamed. For several days, no marked alteration occurred, but the strength obviously declined, he grew delirious at night, the left knee became slightly inflamed on the 21st, on the 23rd the inspirations were difficult, and at 10 p. m. of that day he expired.

Such was the case at the time of admission, and from that period to the patient's death. The following is the history which he gave, and which we have purposely introduced here that it might not interfere with the narrative of the facts which were actually observed.

* Provincial Transactions.

He stated that in March, 1835, he was engaged in cutting up a horse, which had died of the glanders; and having, two or three days previously, been pricked by a thorn in the palm of the left hand, between the index finger and the thumb, and the wound being not quite healed at the time of the dissection, he supposed that matter from the dead horse must have come in contact with it, for on the following day his hand became swollen and inflamed, and was excessively painful. It continued in this state for five weeks, without much constitutional disturbance, leeches and poultices being alternately applied; after which the pain, swelling and inflammation suddenly receded from the hand, and made their appearance between the elbow and the shoulder. He did not remember that there was any redness extending along the arm from the hand. In nine days the inflammatory appearances vanished from this place, and the calf of the right leg immediately became affected, and continued so till the month of October. The left knee had also been affected, and still bore the marks of cicatrized sores. He was admitted into the Hospital in July, 1835, but by his own desire, left it at the end of three weeks, without having received any relief.

Despairing of a cure by ordinary means, he endeavoured to make an open sore by pricking the part affected with a needle, in the hope that a healthy action might be thus induced; but he could never excite a proper discharge "it was always a watery corruption."

Nevertheless, he apparently recovered in October, and returned to his work: but in January, 1836, he was attacked in the right shoulder, though much less severely than on any former occasion. He again recovered in nine or ten days, and was free from pain till the end of May, when he injured his ancle, and pain, redness, and swelling, similar to that from which he had before suffered, again made their appearance in the part. In six or seven weeks the malady suddenly left the ancle, and the right knee became affected; and in the course of a fortnight, the right elbow was also attacked. He had for some time past been occasionally subject to rheumatic pain in the joints, especially in those of the upper extremities; but he declared that he had never had syphilis, and had never been salivated. About three weeks before Dr. J. saw him, he had a severe headache, for which leeches were applied to the temples.

Dissection. The body was muscular. No mark of syphilis could be discovered. On reflecting the integuments which cover the upper portion of the right tibia, two abscesses were discovered, the walls of which were formed by the internal surface of the fascia, and the external surface of the periosteum. These membranes were more vascular than usual, and the latter was considerably thickened, and easily detached from the bone.

On opening the head, considerable effusion was found under the arachnoid membrane in every portion of the brain, especially at the upper part of the hemispheres. The medullary substance had a darker colour than usual but was firm, and appeared to be otherwise healthy.

The passage of the larynx was almost closed by œdematous swelling of the glottis, so that water poured into the orifice very slowly passed through it; and the mucous membrane was much distended by effused serum. The epiglottis and trachæa were in a perfectly healthy state. The cricoid cartilage was partially ossified, and an abscess, which was in contact with the bony part, had penetrated through the mucous membrane, the texture of

which was destroyed for about the space of a shilling. The lungs adhered to the sides of the chest in several places, but were quite healthy.

Dr. Johnstone admits that this case is far from offering conclusive evidence in favour of the view that it was essentially one of glanders. It was in fact an instance of cachexia, or of the indeterminate group and series of symptoms which go by that familiar name. It would be easy to select from the mercurial and syphilitic cachexiæ, which are constantly occurring, instances very similar, if not quite analogous to the preceding. The cachexiæ, no matter how induced, evince a marked tendency to affect the cellular membrane, and its modifications the fibrous and the cutaneous. The cachexiæ, too, however different in origin, when once induced are almost alike in characters and progress. So strong is this similarity, that we are usually compelled to refer for discriminating marks, to the history of the particular case, and every one who is practically conversant with medicine knows how difficult it often is to obtain one on which we can implicitly rely. We mention these circumstances, for the sake of enforcing the necessity of caution in admitting specific infections on evidence of a dubious nature.

3. *On the Poison of Measles.* By R. Williams, M.D. Senior Physician to St. Thomas's Hospital, &c.*

In our last number we presented an account of the first half of the volume of Dr. Williams which treats of Morbid Poisons. In that half, the poisons of typhus and of scarlet fever were considered. In the remaining half the poisons of measles, of small-pox, of hooping-cough, and of erysipelas are treated of. We shall notice these more or less cursorily, because very much of what is stated by the author must be, ex necessitate, elementary. The poison of measles is first examined.

Measles are both contagious and infectious—that is, they appear in an individual after exposure to an atmosphere or to fomites contaminated by another individual. Measles also are often epidemic, and then the cause is supposed to be in the air. Of course we know nothing positive on this head. The amount of our information extends only to this, that at certain times measles are extremely prevalent, and that individuals become affected by them independently of any appreciable exposure to air or fomites specifically contaminated by other individuals. Such is the statement of the fact. It is put more hypothetically by Dr. Williams thus:—*that*, it seems to be a law of poisons, generally, that they vary greatly either in quantity or intensity; and the measles have been constantly observed to reign epidemically rather than sporadically, breaking out in certain years at the beginning of winter, increasing till the vernal equinox, and dying away towards the summer solstice.

The infectious nature of measles has been so often seen, that it is, and, perhaps, may be, taken for granted.

Its contagious properties were proved directly by Dr. Home, who, in 1750, inoculated for the measles. He inoculated with measly blood. The running at the eyes was very considerable, the cough was scarcely present in the disease produced in this way. The contagious nature, says Dr.

* Elements of Medicine. Vol. 1. On Morbid Poisons.

Williams, of the serum contained in the vesicles, which sometimes accompany the eruption of measles, has been proved by Mr. Wachsel. This gentleman inoculated a lad, Richard Brooks, with the fluid taken from those vesicles, and also from the vaccine pock. Both diseases were produced, the vaccine virus taking the precedence, owing perhaps to its having a shorter period of latency than the morbillous poison.

The experiments of Home have been repeated by Vogel, Brown, Monro, and Tissot; and the result has led them to imagine that a mitigated and mild disease followed. On the contrary, however, the similar experiments made by Cullen, Girtanner, Rosenstein, and Vaidy, were not attended by any such mitigation of the symptoms as in their opinions warranted the continuance of the practice, and consequently of late years the inoculating for measles has been discontinued. As late, however, as 1822, Professor Speranza, in an epidemic that prevailed at Mantua, inoculated himself and six boys, after the manner recommended by Home: they all took the disease, and it ran a mild and regular course.

Dr. Williams shews, in succession, that the disease may be conveyed by fomites—that the susceptibility to the disease, though usually exhausted by one attack, is not always so—that it may co-exist with small-pox, with cow-pox, and with hooping-cough—and he supposes that the poison of measles is absorbed and infects the blood.

In speaking of the period at which the contagion of measles is first generated, a period far from determined, he makes the following observations, which we extract.

“Many believe the poison is not secreted till after the appearance of the eruption, while others believe it takes place during the primary fever. The following cases seem to establish the latter hypothesis. A merchant set out from London to Pymont on the 30th of June, 1825, taking with him his wife and three children, but leaving behind a fourth child, apparently attacked with severe catarrh, and which afterwards proved to be the measles. The party arrived at Pymont on the 8th of July, and on the day following, one of the children at Pymont, the playfellow of the one left behind, was taken ill of what appeared to be a common catarrh, but as the account of the child in London having the measles had not yet been received, he was permitted to associate with the rest of the family till the 11th of July. On that day, however, the two remaining children were removed to a different apartment in the same house, while three little girls, the daughters of the host, were removed to a different part of the town altogether. On the 12th of July the eruption broke out in the child affected with catarrh, and on the 24th and 25th the five children, who had not seen the infected child since the 11th of July, or the day before the eruption, fell ill of the disease. These instances are extremely remarkable, for there was not a case of measles at Pymont at the time, and from the little patients being strictly secluded, the disease did not spread to any other family in the town. The infection, therefore, must have been communicated during the primary fever, and before the appearance of the eruption.” 173.

Passing over the description of the varieties of measles, and their diagnosis, in which we see little to detain us, we may pause at the prognosis. The mortality from measles, observes Dr. Williams, greatly varies in different years. Percival says, that out of 3807 cases, ninety-one died, or one in forty. Watson says, that in one year at the London Foundling Hospital, one in ten died, and in another, one in three. In the same establishment,

also, in 1794, out of twenty-eight cases none died; in 1793, out of sixty-nine cases six died; in 1800, out of sixty-six, four died; and the aggregate of these data, taken collectively, will give a proportion of deaths to recoveries of about one in fifteen. which nearly approximates to the calculation of Home, who estimated them at one in twelve. We quote the following passage for the benefit of our less experienced readers

"The longer the preparatory symptoms, and the more violent they are, by so much the less mild will the distemper prove.

Spasms, or convulsions preceding the eruptions, especially in a child labouring under dentition, '*magnum periculum portendunt.*' (Frank, p. 252.)

The eruptive stage of the measles is not attended with much danger either to infants or adults; but should it assume the colour of the morbilli nigri, or be intermingled with petechiæ, or ecchymoses, or should the eruption suddenly disappear, the prognosis is most unfavourable.

Diarrhœa continuing so long that the patient becomes pale and exhausted, is always unfavourable; a moderate diarrhœa is of little moment, and occurring about the tenth day it is salutary.

A moderate hemorrhage from the nose or uterus is by no means hurtful. (Frank, p. 252.)

Adults, as well as children, have in some cases hectic paroxysms twice in the twenty-four hours, without any cough or diarrhœa, and during the interval there is great restlessness, panting, and a quick, irregular pulse. The patients, when thus affected for two or three successive weeks, generally sink under the complaint. The fatal termination seems, however, to be avoided by the appearance of boils, pustules, or suppurating tubercles of the skin. It is also alleviated by suppuration of the meatus auditorius, or of the lymphatic glands.

The danger of the measles is imminent when the secondary actions of the poison fall with any degree of severity on the lungs.

The favourable circumstances are, long protracted sleep, and gentle perspiration; also, if the cough be accompanied by healthy sputa, and the urine deposits a healthy sediment.

The measles are far less dangerous to pregnant women than either the scarlet fever or small-pox. 'I have attended several,' says Heberden, 'who were greatly harassed by the violence of all the usual symptoms, but I never knew them make one woman miscarry, or to be in more danger on account of pregnancy.

The measles are more fatal in the winter than in the spring, the summer, or the autumn.

The co-existence of measles with whooping-cough, or of measles with small-pox, is most commonly fatal, especially in winter." 183.

The treatment of measles occupies, of course, the attention of our author, and some pages of his book. But with the exception of a somewhat curious notion, we observe nothing to detain us. The notion to which we have alluded is the following. Speaking of antimony, many practitioners, he says, are in the habit of prescribing it in preference to ipecacuanha, "but as antimony has a tendency to act on the lungs, and to produce, as far as my observation has gone, mortification of their substances, it certainly is prudent to forego the use of a medicine which must predispose those organs to the action of the poison." My Uncle Toby would call this rather "hobbyhorsical," and my Uncle Toby would probably be not very far from the truth.

The section on the poison of small-pox is judicious—that on the poison of chicken-pox brief—and neither demands more particular attention from

us. But the one which follows, bold in its title, bolder in its doctrines, may claim more special notice.

4. *On the Poison of Erysipelas*

It is scarcely necessary to inform our readers, that the contagiousness of erysipelas is a matter on which physicians and surgeons are neither unanimous nor decided. The cases which have been published by Dr. Wells and others, and those which every now and then occur in private and in public practice, have proved, so far as any thing of the sort is proven, that erysipelas may be contagious. But the general experience of medical men, the facts which are continually occurring, and reasoning, so far as we can place reliance on it, combine to prove also that under ordinary circumstances erysipelas is *not* contagious, and is *not* the result of a specific poison.

But Dr. Williams is not inclined to temporise. He treats the complaint, without reservation, as infectious and contagious, and no where does he hint that it *may* be neither. In speaking of it, he talks of the poison of erysipelas—in treating of it, he *jams* it in between small-pox and whooping-cough—in short, no one who reads his chapter can avoid concluding that the author ranks it with the most undoubted morbid poisons.

As we believe this calculated to convey an imperfect, if not an erroneous, view of the disorder, and as truth on such a subject must be highly desirable, if not important, we shall examine the arguments of Dr. Williams, and endeavour to determine their real value. We shall first adduce the reasons of our author for considering erysipelas as a morbid poison.

A. “The remote cause of erysipelas,” says Dr. Williams, “must exist at all times in the atmosphere, or else the human body must possess the power, when acted on by certain predisposing causes, of spontaneously generating this peculiar poison. The doctrine, however, of the spontaneous generation of any poison is ill supported by argument, and not generally received, and consequently the more probable hypothesis of the remote cause of this disease is, that a poison producing erysipelas exists at all times diffused through the atmosphere, varying greatly in quantity or intensity; for, although the disease is at all times sporadic, yet in some years it is epidemic. The occasional increased prevalence of this disease has been observed by many persons. ‘There are some years,’ says Mr. Calmiel, ‘when among the insane erysipelas is almost indefinitely multiplied, so that it is necessary to suspend all treatment by counter-irritants, which form the basis of the cure of the insane; for the application of a seton, of a moxa, of a blister, or a slight blow, the opening of a vein, or the application of leeches, is certainly followed by erysipelatous inflammation. This year (1828),’ he adds, ‘has been remarkable in this respect, and the infirmaries have been literally encumbered with insane patients labouring under erysipelas.’ Mr. Velpeau, in the year 1831, witnessed in the Hôpital de la Pitié, a similar epidemic prevalence of this disease, for in both the medical and surgical wards, the application of leeches, a slight operation, or even a puncture, brought on this inflammation, with all its consequences. Blache and Chomel also speak of having many times seen it epidemic, especially in the autumn of 1818, a year of excessive heat, and long drought. Erysipelas, therefore, is occasionally epidemic; it is also more frequent in summer than at any other season.” 260.

If prevalence of a disease at particular times is to be deemed evidence of a special poison existing in the atmosphere, then we must have a considerable number of poisons extant. There are numerous disorders which are

epidemic, or which may become so. Catarrh, sore throat, bowel complaint, the minor exanthemata, boils and carbuncles, many, in fact, of the affections of the tegumentary membranes, whether mucous or cutaneous. And do all these depend on poisons floating in the air? Or are they not more probably modes of action excited in the economy by variations in the condition of the atmosphere, independently of any poisonous matter in it?

It is obvious that there are not any means of determining this question in a positive manner. The utmost we can attain is a strong probability, the expression of minor cumulative probabilities. Analogy is almost the only method which we can apply to the solution of the case.

We conclude that catarrh, diarrhœa, and so forth, occurring epidemically at certain seasons, depend on variations in the barometrical and thermometrical conditions of the air, because they coincide, in a greater or a less degree, with the variations in question. That is the reason for the opinions commonly entertained upon the subject, and it is evidently only conjectural. It is easier to suppose that this is true, than to believe that a poison is developed.

Now erysipelas follows a nearly similar law. It is usually (nine times out of ten), most prevalent in variable seasons, or in extreme seasons, but particularly in the former. We look for it in Spring and Autumn—at the breaking up of a frost—in very hot Summers—during the prevalence of cold winds. We find it usually concur with other affections the consequences of such causes—with catarrh—with sore throats—with bowel complaints. Is it more natural, more easy, to imagine, that atmospheric variations should give rise to affections which evince a disposition to occur simultaneously with them, or to suppose that a more occult alteration is effected in the air, and that a poison is developed or rendered active in it? For our own parts we lean to the simpler explanation, and are disposed to disbelieve these mysterious agencies, unless the evidence of their existence is strong.

It may be said that measles and small-pox, and scarlet-fever, affect the epidemic character. No doubt they do so. But it is not because they are occasionally epidemic that we believe them to constitute morbid poisons, but because they are proved in other ways to be such. Epidemic tendency is not an essential but an accidental character of morbid poisons. If one exhibits it, it does not follow that another shall, and neither is its absence or its presence evidence of the absence or the presence of a poison.

B. *Infectiousness of Erysipelas.*

“The infectious nature of erysipelas is a doctrine of modern origin, and although not universally received, yet the facts in support of it are so many and so irrefragable, that no doubt can be reasonably entertained of its truth. Among the many proofs of this law are the following:—in the year 1760 a person labouring under erysipelas was brought into St. Thomas's Hospital, and shortly after died. From some accident, a patient suffering from a different disease was put into the same bed, but without the usual precaution of airing the mattress, and changing the bed-clothes, and this man was also seized with erysipelas of the face, and he died. Several other patients, also, were subsequently attacked with this disease in the same ward, together with the sister, and she died. At length this disease acquired so formidable a character that a report got abroad the plague was in the hospital, which was only silenced by the physicians and surgeons contradicting it by a public advertisement. A knowledge of this fact

directed the attention the of late Dr. Wells, of St. Thomas's Hospital, to the infectious nature of erysipelas, and he has related in the second volume of the Transactions for the 'Improvement of Medical and Chirurgical Knowledge' several striking cases of the communication of the disease, either by infection or by direct personal contact, that fell under his own observation. These facts have been corroborated by additional instances observed by Dr. Pitcairne, also by Dr. Baillie, who, in the years 1795 and 1796, saw it spread in St. George's Hospital, and by Dr. Cullen, who had seen the like circumstance in the Infirmary at Edinburgh. From that time evidence to a considerable amount has gone on accumulating, so that little doubt remains in the minds of the great majority of the profession in this country, that erysipelas is both an infectious and contagious disease. In St. Thomas's Hospital, where many opportunities have presented themselves for studying the laws of this disease, there is, I believe, no physician or surgeon not fully persuaded of this fact. For since the year 1829 no less than four or five of the wards of that establishment have been cleared out, whitewashed, and painted, in order to stop the wide and fatal spread of this disease. The infectious nature of erysipelas has, indeed, on many occasions, appeared so manifest, and the danger often so imminent, that the medical officers considered it an imperative duty to recommend to the governors the necessity of sacrificing the houses on the north side of St. Thomas's Street for the purpose of procuring a more complete ventilation. This recommendation has, in all probability, led to the rebuilding of the new wards of this establishment, which combine, in so remarkable a degree, space and ventilation with warmth and comfort, so that it is hardly possible to suggest any improvement in their construction. A month, however, seldom elapses without some new and striking instance of the infectious nature of erysipelas occurring in the older parts of the building, and 'it is to be regretted that it has even spread this year in the new wings, for six persons in Anne's Ward have been seized with this disease subsequently to the admission of two or three erysipelatous patients into the ward. It has been said that this circumstance can be explained on the ground that erysipelas was prevalent during the last summer; but if we remember that in London erysipelas did not attack one person in five hundred, perhaps not one in a thousand, it will be plain that the chances against six persons being attacked out of twenty-six are enormous. We can, also, nearly to a certainty, determine the cases which will be liable to an attack, supposing erysipelas to be introduced into a ward; for the convalescent from fever, the swollen with dropsy, the syphilitic, and the scrofulous patient, are its surest victims. Of the six persons who have been mentioned as seized with erysipelas in Anne's Ward, one had ovarian dropsy, two ascites with albuminous urine, one was in the crisis of a dangerous fever, one had scrofulous glands of the neck, and the sixth only, one of the nurses, was a young and healthy person. It is remarkable that phthisical patients, however debilitated, are seldom liable to this disease. It is apprehended that the proof of the infectious nature of erysipelas after these facts is strictly demonstrated." 263.

In a pendent to this passage, Dr. Williams endeavours to decide the distance to which the infection of erysipelas may be carried. He admits it is difficult to determine such a point, but he offers some data for an opinion on it. For example, in a case which occurred under Dr. Roots, in King's Ward, the patient lay from the infected source at least fifteen feet. But the greater space of the new wards has not been found a sufficient protection against the wide spread of this poison. The breadth of the old wards is nineteen feet, while that of the new is twenty-eight feet; still it has spread in both cases, not merely from bed to bed, but to the opposite sides of the ward, and even to patients lying three or four beds off on that side. The

miasmata of typhus rarely spread, it has been stated, from bed to bed, and, consequently, not more than from three to four feet around the patient's person; but the miasmata of erysipelas spread from twenty to thirty feet from the infected source, and, consequently, this disease is infinitely more infectious than typhus. Such are the deductions which would seem to spring from the premises of Dr. Williams, supposing them to be correct.

But there are some obvious objections to the whole chain of reasoning. It has been admitted that erysipelas is peculiarly prone to assume an epidemic character. When it thus prevails, the inmates of an hospital would suffer from it, of course, as well as those who are out of hospitals. If several persons in one ward are affected, how are we to determine that they are suffering from a specific infection, and not from the general epidemic influence?

Dr. Williams endeavours to answer this objection by the numerical method. He replies that, in the whole of London, erysipelas did not attack one person in five hundred, while, in St. Thomas's Hospital, six out of twenty-six were seized. This difference of ratio he ascribes to the agency of infection in the latter instance.

If all persons, those in and those out of hospitals, were equally prone to contract the disease, this mode of argument would be satisfactory. But that is not the fact. Dr. Williams admits that it is not the fact, for he observes that we can nearly to a certainty determine the cases which will be liable to an attack—the convalescent from fever, the dropsical, the syphilitic, and the scrofulous. In other words, erysipelas is a disease which peculiarly requires for its development, predisposition on the part of the individual. The efficient causes of such predisposition are concentrated to a high degree in hospitals, and, therefore, when erysipelas prevails, it prevails most extensively in them. It is clear that Dr. Williams's application of numbers is, on his own shewing, a fallacy. We pass to the contagiousness of erysipelas.

c. "*Contagious.*"—The contagious nature of this disease has been proved by Dr. Willan, who affirms, if a person be inoculated with the fluid contained in the phlyctenæ of a genuine erysipelas, that a red, painful, diffuse swelling, analogous to that from which the fluid was derived, is produced.

Fomites.—The case given by Dr. Wells of the patient who caught erysipelas in consequence of being laid in the unchanged bed of one that had died of this disorder, and the difficulty that has been experienced in eradicating this disease from the wards of St. Thomas's Hospital, are strong proofs of this law. In the navy, also we learn from the second volume of Mr. Travers's book on constitutional irritation, that the contagious nature of erysipelas, and consequently its communication by fomites, is so generally admitted, that it has become a debated question, whether its ravages are best limited by swabbing the decks in the usual manner, or by dry-rubbing them. Among the latest evidence of the disease being communicated by fomites is that of Dr. Gibson of the Montrose Infirmary. 'Some days,' says this physician, 'after the admission of a female patient into the Montrose Infirmary with abscess of the hand and caries of the bones of one finger, the patients in the two next beds to her were seized with erysipelas, and, on enquiry, it was ascertained that the suppurations of the woman's hand had been caused by an attack of erysipelas.' The patients were all now removed from that ward, which was cleaned, whitewashed, and fumigated. 'Yet when the patients were again placed in that ward the disease again made its appearance, and it was found necessary to remove the whole of the patients from

our little infirmary, and to take every precaution before the contagion was eradicated.' " 264.

Positive evidence and direct facts have apparently established both the infectious and contagious nature of erysipelas. The evidence and those facts, when marshalled by a friendly hand, are most imposing, and they tend to shew that erysipelas is a *most* infectious and a *most* contagious malady. The inexperienced medical practitioner, who should peruse Dr. Williams' pages, would rise, we are sure, with that conviction, and would enter on practice with the strongest apprehensions of a complaint depicted in such frightful colours.

If such a practitioner were told *that* a large proportion of physicians and surgeons were sceptical of these infectious and contagious properties, *that* no precautions at all commensurate with the occasion were taken to prevent their necessary consequences, and *that*, notwithstanding this supineness, erysipelas was *not* found to spread in private or in public to any thing like the extent which would seem inevitable, he would either wonder at the obstinacy of mankind in rejecting the evidence of their very senses, or he might suspect that Dr. Williams had not laid before him the *whole* truth, and had learned exclusively on such particulars as suited his hypothetical views. And probably this suspicion would prove to be well founded.

The objections which we would take to the general tone of Dr. Williams' inferences are the following:—

a. As we before observed, the facts that he has adduced in favour of the infectiousness and contagiousness of erysipelas, prove, if they are to be received as representing its ordinary characters, that it is a *very* infectious and contagious malady. To this we apprehend that general experience is opposed. The common opinion founded on the extensive basis of common observation regards appreciable infection and contagion in this complaint as the exception rather than the rule.

b. The predisposing causes of erysipelas are such as do not operate to any thing like the same extent with the other *admitted* morbid poisons. A person must be usually debilitated before he can receive it, or rather his system must be brought to that condition which is not represented by pure debility, and which, to save our entering on tiresome particulars, we shall shortly and loosely call "a bad or irritable habit of body." The term is familiar, and the complex idea which it represents is familiar too. Now this is certainly not *so* true of small-pox, measles, scarlet fever, cow-pox, hooping-cough, &c. We leave fever out of the category, because that is a vexata quæstio.

c. The exciting causes are such as we do not see occasion any other complaint the effect of a specific poison, and such as do occasion other complaints which are not the effects of any poison at all. Cold is a common cause. We know a lady who has erysipelas of the face whenever strong north-easterly winds set in. We have already stated that the same sort of weather which occasions sore throats and catarrhs, occasions also erysipelas. Atmospheric vicissitudes, in short, are a fruitful source of erysipelas. Dr. Williams has alluded to the doubt that prevails respecting the superiority of dry-rubbing over swabbing on board-ship, during the prevalence of erysipelas, or as a preventive of it. But he has not ventured to tell us how dry-rubbing, which has won the day, should destroy infectious matters better than washing. The fact is, that swabbing has been denounced, because it

was believed that the *cold and wet* gave rise to the complaint, not because it was not calculated to destroy fomites. Certain articles of diet notoriously occasion erysipelas. Shell-fish and salmon frequently do it, and in certain individuals they always do it. Acids have been known to produce it. Is any thing analogous to this seen in true infectious diseases? The most fruitful causes of erysipelas are wounds. We cut out a tumor, or we make an incision, and erysipelas follows. Do we see this in small-pox, or measles? Nay, the kind of erysipelas is modified by the kind of wound. A mere prick or scratch is usually followed by cutaneous erysipelas—a deeper wound involving the cellular tissue by diffuse inflammation of that tissue, or by that tertium quid between cutaneous erysipelas and diffuse cellular inflammation, erysipelas phlegmonodes—a clean cut is less likely to be succeeded by erysipelas than a punctured wound is—a punctured wound is less likely to induce it than a lacerated one. Is any thing similar to this observed in the true morbid poisons?

d. An attack of erysipelas does not exhaust the susceptibility of the individual. He is just as likely, nay, he is more likely to suffer from it again. Here is another general distinction between erysipelas and the recognized morbid poisons.

e. A candid consideration of all the circumstances connected with this interesting and important subject, must lead us, we apprehend, to adopt one of two conclusions. Either we must concede the morbid poison of erysipelas to be of a very dissimilar character to that of the other morbid poisons, and place it in a niche by itself—or, we must suppose it to be merely a mode of inflammatory action,* requiring a particular constitutional state for its development, and called into operation by very various and opposite stimuli. In this view, a person in that condition prone to erysipelas would have it excited by cold, by articles of diet, by injuries, by contact with another individual labouring under it, by fomites, by infection, perhaps by other less obvious excitants. This doctrine appears to us to be most consistent with the facts, and most easily reconciled in the present condition of our knowledge with the evidence and the phenomena. It has the merit of assuming as little as possible, much less than the doctrine opposed to it, as little indeed as is assumed in any hypothesis in medicine.

We do not think it necessary to pursue Dr. Williams farther through the subject of erysipelas, as, in a late number of this journal, we noticed very fully his views respecting its treatment. Our readers may remember that he places his principal dependence on wine, and that he advocates the ex-

* We admit that the term "mode of action" cannot be received as a true distinctive character, as we cannot determine that the phenomena which follow inoculation with a morbid poison are not themselves a mere mode of action; indeed it is most likely that they are so. But we use the expression for want of a better, and we only mean to imply by it, a quantitative rather than an essential difference—a more obvious mode of action in lieu of a more recondite one. It is to be regretted that our physiological knowledge is too imperfect to enable us to avoid these loose expressions and uncertain reasonings. They are, perhaps, so inherent in the nature of the subject, that all medical hypotheses must be more or less vague and metaphysical in their enunciation and their proofs.
—Eds.

hibition of it in a very strong, if not in rather an indiscriminating manner. But we need not revive a question on which we have previously dwelt at some length.

The chapter on Pertussis is a sensible compendium of opinions and practice. It requires no further attention. But the last chapter, which is a curious tail to the morbid poisons, and is dedicated to the bromide of potassium, may give us a short pause.

III. ON THE USES OF THE BROMIDE OF POTASSIUM IN DISEASES OF THE SPLEEN.

It is to simple enlargement of the spleen, such enlargement as ensues from remittent or intermittent fever, that Dr. Williams limits his remarks. He first shews, or attempts to shew, that mercury is not of service to it—he then complains that no ordinary remedies relieve it—and he finally introduces the bromide of potassium with the following bow.

“ It has appeared, therefore, that a more efficient remedy for these forms of disease was a desideratum in medicine; and after the success which attended the exhibition of the iodide of potassium in some forms of secondary syphilis, it seemed reasonable to expect that bromium might afford salts, possessing similar, or at least equally valuable medicinal properties; especially as that elementary fluid is remarkable for its extremely pungent and acrid qualities. With this object, therefore, I was induced to institute a treatment by the bromide of potassium in many different diseases; but as a general result, I have not been able to attribute to that substance any other valuable medical property than that of reducing enlarged spleens; a property which, if established by further experience, would render it invaluable in our colonies, diseases of that viscous and their concomitant symptoms being the endemic cachexia of tropical countries. Diseases of the spleen are not common in London, even in the practice of a large hospital; and the following cases are all that I have had an opportunity of treating with this medicine; but as it was singularly successful in all, there is a high probability that its powers over this disease may be of a specific character; and being anxious that the experiment should be repeated by those who have more extended opportunities than myself, I have submitted them thus early to the public.” 336.

Dr. Williams relates four cases in corroboration of these statements. Of the four we shall give the particulars of one, incomparably the most flattering to the remedy. This we do by way of encouraging our readers to test its powers in such cases as may seem adapted for it.

Case. Thomas Nursay, aged fourteen years, was admitted into St. Thomas's Hospital, September 13, 1833. He had been ill eighteen months, and had taken a variety of medicines; but his friends could not trace his present disorders to any known source, nor did they admit that he had at any time been exposed to marsh miasmata. On examining his abdomen, both the liver and the spleen were found enormously enlarged, so that they met at the median line, and could be traced downwards till they were lost in the pelvis. Their edge, also, was hard, and their substance solid and unyielding, while much fluid was detected in the abdominal cavity; the boy's countenance was sallow and emaciated, his legs dropsical, his belly unsightly

and protuberant, and the prognosis from all these circumstances was most unfavourable. Dr. Williams tried, at first, the supertartrate of potass, then the iodate of potass, and then the ioduret of mercury, by which the patient was salivated. The improvement not being satisfactory, Dr. W. prescribed, on the 13th of May, 1834, *potassii bromidi*, gr. i, *ter die*, and gradually increased the dose to gr. iv., *ter die ex misturâ camphoræ*. He continued taking the medicine until the 10th of July, when he became slightly jaundiced.

"As I was apprehensive the bromide of potassium might have caused this derangement of the liver, which I was satisfied would quickly subside under a treatment by the sulphate of magnesia, I prescribed that remedy in 3ss. doses, and for a time omitted the bromide of potassium. By the 11th of August the jaundice had disappeared, but no diminution of the diseased viscera appeared to have taken place since he had ceased to take the bromide of potassium. The sulphate of magnesia was therefore omitted on the 11th of August, when the bromide of potassium, grs. iv., and which was increased on the 15th to grs. v., was again prescribed, and continued with only an occasional intermission till the 7th of October, 1835, or for a period of about fourteen months. A few weeks after he began this long course, he was able to leave his bed, and to be about the ward, and his recovery was now so rapid, that for many months subsequently he amused himself in spreading plaisters, and making himself generally useful in the hospital. At the time of his discharge, the liver and spleen, as far as could be judged, were not more than one-third their former size, while their previously hard edge and consistency could no longer be felt. As the general health of the boy was now good, and he had grown many inches, his friends at the hospital provided him with a place as foot-boy, so that I saw him occasionally, and in good health, for many weeks after his dismissal. He was, however, at length sent away for some misconduct, and I have not since heard of him." 338.

In the next case, much benefit appeared, on two occasions, to have been derived from the use of the bromide, but she was twice attacked with hæmorrhage from the stomach and bowels, and the second seizure proved fatal. On dissection, the spleen was found to be thrice its natural size, but healthy in its structure. The peritoneum was greatly thickened and diseased, and the liver was knobbed, and of the colour of pale dried Turkey rhubarb. The patient did not therefore die of simple splenic disease.

In the next case, the patient who was admitted on the 16th of October, 1834, and was discharged on the 2d of April, 1835, calculated that the spleen was reduced in size two-thirds by the bromide.

In the fourth case, both the spleen and liver were felt, on the admission of the patient, to be enlarged and hard. On her dismissal, three months afterwards, neither spleen nor liver was distinguishable.

Actual experiment will go farther to determine the real value of the bromide of potass in cases of enlarged spleen, than a whole volume of reasoning. There is this good feature in the remedy, that it seems to do no harm.

We now return to the Provincial Transactions.

One hundred pages are occupied with a Medico-Topographical, Geological, and Statistical Sketch of Bolton and its neighbourhood, by Dr. James Black, of the Royal College of Physicians of London. The sketch in ques-

tion is highly creditable to the zeal, the information, and the judgment of its author, and will repay perusal in the original. It is not adapted for analysis, and we must content ourselves with this barren mention of it.

Nor can we do more than refer to an interesting paper on the Unity of Organic Structure, by Dr. Dick, of Clifton, a man of philosophical tastes, and of a cultivated mind. The subject has been too lately discussed in this Journal, to permit us to resuscitate it for the present.

Some Observations on the Influence of Sleep on Digestion and Secretion, by Dr. Wakefield Scott, Physician to the Liverpool South Dispensary, are judicious, but too general for our pages.

IV. CASE IN WHICH THE MEMORY OF LANGUAGE WAS LOST. By T. SHAPTER, M.D. Physician to the Exeter Dispensary, and Lying-in-Charity.

Several cases have been recorded, in which the memory or the recollection of language was partially or wholly lost.* As such cases are too common to be considered matters of mere curiosity, yet too rare to be familiar, and as they bear on a subject with which medical men generally are too little acquainted, the philosophy of the human mind, we shall present an account of Dr. Shapter's own case, as well as of some others which he quotes.

Referring to Louyer Willermay's article in the Dictionnaire des Sciences Medicales, Dr. Shapter quotes his classification of the diseases of memory, as a function. He divides them into—1, *Enfeebling*, incomplete, or complete; 2, *Destruction*, partial, or confirmed.

The diseases referable to the first class, are for the most part caused by congenital malformations or the advance of old age: while those of the second class have their origin occasionally in acute disease, though more frequently in cerebral lesions.

Dr. Abercrombie observes that it is chiefly in attacks of an apoplectic nature that we meet with examples of loss of memory on particular topics, or extending only to a particular period. It is true that such partial loss of memory is most commonly the result of such causes as are calculated to produce compression of the brain, but it occasionally follows what is considered as concussion. After that accident it is not very uncommon for the patient to have forgotten events which happened a little prior to the occurrence of the accident. Sir B. Brodie, for instance, mentions the case of a groom, who was cleaning a horse, and was kicked so as to produce concussion of the brain. He quickly recovered from it, and, having quite forgotten what he had been about, he informed those about him that he must "go and get the horse out of the stable to clean him."

It is nowise surprising that the memory of language should be interfered with, while that of things continues unimpaired. The mode in which we acquire our ideas of these two objects of memory is different. A man learns the form of a table, for example, through the medium of the senses—its physical qualities make a powerful and, we may say, direct impression on

* Memory, in this sense, implies the retention in the sensorium of images, whether abstract or direct—recollection, the power of voluntarily recalling them.

the sensorium. But its name is an arbitrary and an abstract subject of conception, and no fixed nor necessary relation exists between the name and thing. As the respective ideas are differently acquired, so they may be differently lost, and so, in fact, we find that they are.

We will now quote some of the cases which Dr. Shapter himself quotes.

"Dr. Abercrombie states, that a gentleman whom he attended, after recovering from an apoplectic attack, knew his friends perfectly, but could not name them. Walking one day in the street, he met a gentleman to whom he was very anxious to communicate something respecting a mutual friend; after various ineffectual attempts to make him understand whom he meant, he at last seized him by the arm and dragged him through several streets to the house of the gentleman of whom he was speaking, and pointed to the name-plate upon the door. And he quotes Dr. Gregory, as mentioning the instance of a lady, who, after an apoplectic attack, recovered correctly her ideas of things, but could not name them. In giving directions respecting family matters she was quite distinct as to what she wished to be done, but could make herself understood only by going through the house and pointing to the various articles.

Louyer Willermay refers to the instance of a man who, after an accident, could not recall the names of his relations; and of another, who could recollect no proper names without the assistance of his friends.

Dietrich (in *Archivis*) records a case of *amnesia verborum*, in which facts were remembered, but expressions were wanting to retrace and render his ideas.

In the *Ephemerides* is the case of a man, about 60 years of age, who, after an apoplexy, entirely lost the art of reading, even that which he himself had written: the power of doing which, in many languages, whether after the dictation of others, or to express that which he himself desired, was fully retained. He had also lost the art of spelling orally." 323.

This latter case is not very comprehensible. Of course, Dr. Shapter cannot mean, cannot understand that the impossibility of "reading" depended upon mere inability of articulation, for such a case would be a common one. If the inability to read be a mental impotence, and resulted from inability to comprehend what was written, that seems incompatible with being able to write, and to understand what others said. It is surely difficult to conceive that the combinations of language should be intelligible when that was oral, that the individual should be able to write them, and yet that he could not comprehend them orally. The case would appear, then, to have been simply one of impaired power of articulation. But to proceed.

"A young woman of weak intellect, subject to headaches and '*mal réglée*,' at the age of 21 experienced an attack of apoplexy. In her convalescence it was observed that she had lost all recollection of persons and occurrences. She early recollected her mother, without the power of calling her by name; at the end of a month she pronounced some words, though but very imperfectly, and her efforts to express herself involved her in almost unintelligible periphrases.

Mason Good states the instance of a man admitted into St. Thomas's Hospital with a brain fever, who, as he grew better, spoke to his attendants, but in a language they did not understand. A Welsh woman, going by accident into the ward, heard him, answered him, and conversed with him. It was then found that the patient was by birth a Welshman, but had left his native land in his youth, that he had forgotten his native dialect and used the English for the last thirty years; yet, in consequence of this fever, he had now forgotten the English tongue and suddenly recovered the Welsh.

Boerhaave gives a still more extraordinary instance of oblivion in the case of a

Spanish tragic author, who had composed many excellent pieces, but so completely lost his memory, in consequence of an acute fever, that he forgot not only the languages he had formerly learnt, but even the alphabet; and was hence under the necessity of beginning to read again. His own poems and compositions were shewn to him, but he could not be persuaded that they were his production. Afterwards, however, he began once more to compose verses, which had so striking a resemblance to his former writings, that he at length became convinced of his being the author of them.

Without adding further to the details of these anomalies, I shall conclude by offering the following references, where cases of somewhat the same complexion may be met with:—The article in the *Dict. des Sciences Medicales*.—*Journal General de Medecine*.—*Study of Physic*, by Mason Good, vol. IV.—*Centenary of Observations*.—*Dr. Abercrombie on Diseases of the Brain and Spinal Cord*, p. 176 and 214.—*Crichton on Mental Diseases*, p. 370." 324.

To these we may add one or two cases which occur to our minds at the time.

Sir Astley Cooper refers in his Surgical Lectures to a case, which is almost a fac-simile of that of the Welshman. A German sugar-baker in London, forgot, after an injury of the head, the English language which he had previously acquired, and remembered only the German.

Baron Dupuytren relates in his Clinical Lectures the case of a man, admitted, if we remember rightly, into the Hôtel Dieu, who, after an injury of the head, forgot all language except the monosyllables *pa-pa*, which he rejoined to all questions.

We saw a nearly similar case at the siege of Antwerp. A French soldier received a compound fracture of the cranium, opening the superior longitudinal sinus. There were, in the first instance, the symptoms of compression. When we saw him, in the hospital of Antwerp, he understood all that was said to him, and seemed quite intelligent. But he could only reply *ba-ba* to interrogatories. It was rather singular to observe his evident vexation at his inability to give expression to his ideas.

We will now attend to the particular case, which Dr. Shapter adds to the existing stock. It is circumstantially, and, we do not doubt, it is faithfully reported.

Case. Pietro Gillio, LL.D. æt. 40, a native of Italy, is, or rather was, a man possessing great comprehensiveness of mind, much vigour of intellect, of extensive acquirements, deeply read in metaphysics and general literature, and the perfect master of several languages.

In consequence of having been a prominent agent in the insurrection of Piedmont, he was condemned to death. Fortunately he effected his escape, and, since that period, has been a solitary wanderer, for some years in Spain and the Channel Islands, but latterly in England, where he supported himself by teaching the Italian and Latin languages.

Having been exposed to anxiety of mind, study, night-watchings, fastings, and cold and damp, he became affected on the night of the 14th of April, 1835, with headache, vertigo, and vomiting, succeeded by an indescribable confusion, after which these symptoms subsided.

On the 15th, Dr. Shapter was called to him, in company with Mr. Froom.

"We found him in a state of great excitement and irritability, pacing hastily

up and down his chamber with unequal steps. He was incapable of articulation, and there was an almost total loss of the memory of language; for though his attention was readily attracted by speaking to him, yet the purport of what was said appeared to be in no way understood; if there were any indistinctness of hearing, it must have been but very slight. Deglutition difficult. The pupil of the right eye dilated, and but slightly answering to the impulses of light; the sight distant and indistinct; that of the left eye natural; the general expression of the eyes restless, and watching with anxious quickness those in the room. Pain in the back part of the head, but apparently not acute. Pulse rapid, unequal, 120; on the right side strong, full, and vibrating, especially pronounced in the right subclavian and carotid arteries; on the left side, the arterial action small and weak. General weakness of the left side, but not amounting to paralysis, excepting for the first hour or two after the attack. His landlady says, that at breakfast this morning he was silent, irritable in manner, and looking anxious; that suddenly he made some effort as if to speak, and then rushed hastily from the house.

The usual antiphlogistic treatment indicated was pursued, such as bleeding, blisters, and purgatives. We early found, however, that he had not stamina to permit such means to be carried to any great extent." 314

Not to pursue details of treatment which Dr. Shapter judiciously avoids, we may cite a report dated 6th of June. The arterial action of the right side is still tumultuous in the extreme. He can recollect *portions* of a few words, and, after repeated trials, can write some of the shortest ones correctly, without the assistance of a dictionary; but words of three or four syllables are far beyond his powers of concentration; his efforts at composing a sentence are unavailing, as well as the understanding one addressed to him; he has no command of tongue. He is now studying, with the most feverish anxiety, the English lexicon, and, in great measure, manages to explain himself by pointing to particular words; but his capacity for re-learning language appears limited and confined.

After this he had an excessive secretion from the membrane of the nose and fauces. In October, he complained of some tenderness on pressure over the lumbar vertebræ, which was relieved by the application of leeches and a blister. He now took to reading various books on diseases of the brain, as well as on worms, to which he said he had been prone. He occasionally drew up reports of his symptoms, and one, which he received about Christmas, is transcribed by Dr. Shapter. We may observe that, in the beginning of December, he sent a memorandum in which he took a comparative view of his symptoms, stating the whole number as 100, and then giving each symptom its relative proportion according to his estimate of its intensity and importance. The following is the report previously alluded to.

" ' Sir dear—have a symptom of illness—viz.—1, spit in night and day—2, dry cough—3, a unequal pulse—4, no sleep—5, uninclination to go to stool and non-evacuate thing *quite*—6, swoon—7, loathing of food and other times a voracious appetite—8, a privation of speech—9, foot, hand bad, a hinde right—paleness of the face and times a red of the face—11, whitish colour urine (teeth, nose,—throat).

' In first attack 15 april, I had swoon in stool, not evacuate quite the *feces*: and was sleep and was awaken and privation.

' (Mr. Duval).

' In child in is pains of worm—medicine—rue and wormwood.

' In 15 year, the same pains, medicine, oil, &c.

'in jersey—no medicine except rhubarb; in Guernsey—medicine—calomel; in Plymouth—no medicine; in Exeter is privation of speech.

'Mrs. ——— non speak true to Dr. Shapter, viz. 1, 2, 4, 5,
(non speak,—write). *P. Gillio.'* "

In September, 1836, having received a free pardon from the King of Sardinia, and being about to return to Vico, his native place, Dr. Shapter took a final note of his condition, which we introduce.

"Has now a nearly perfect recollection of facts, of ideas, and of his past life generally; and has also recovered the recollection of many words when written before him, and to a lesser extent when spoken to him; this difference does not depend on any deafness. His powers of reading are soon exhausted; and he has, for the most part, lost the faculty of properly arranging and constructing his sentences, and is now almost totally incapable of articulating with correctness the few words he has with difficulty re-acquired. His general irritability is much decreased, and the pain on pressure of the spinal column has subsided entirely; but he complains much of painful pulsations in the posterior part of the head and neck, occurring especially during the night and towards morning. Pervigilia; pulse 104, in right side strong, left weak; the general strength of the right side restored; pupil of right eye still dilated, the sight rather more distant than that of the left; the indistinctness of vision almost recovered from; habit of body costive; appetite good only towards evening. General health from the period of the first attack, though slowly, yet progressively improves." 318.

Dr. Shapter drew up a short abstract of his case, and gave it to him with appropriate directions for his treatment. Dr. S., if he were to hazard an opinion on the nature of the case, "would refer the proximate cause of the symptoms to the bursting of a bloodvessel at the base of the brain, or the superior portion of the spinal column? and that some coagulum has been formed near that centre whence arise the glosso-pharyngeal and lingual nerves. The eye-sight, it may be recollected, was not particularly affected, but there was some loss in the powers of adaptation of the right eye; we may therefore conclude the optic nerve to have been intact, but that there was some affection of the motor nerves of these parts." It is certainly most probable, that the symptoms, in this case, depended on sanguineous extravasation. But the affection of particular nerves, as of the lingual and the motor nerves of the eye-ball, is unfortunately, not found on all occasions to be conclusive proof of the existence of pressure at or about the *apparent* origins of those nerves. The associations of different portions of the brain by means of the commissures and of the extension of the fibres, are too complicated to permit us, in the present condition of our knowledge, to form more than a few general accurate conclusions.

We may observe that these losses of special intellectual functions after cerebral lesions, are among the most satisfactory proofs of the truth of the essential *principles* of phrenology. But whilst they go to establish its principles, they have yet contributed but little to the confirmation of its details.

We have now noticed all that requires notice in the *Medico-Chirurgical* and in the *Provincial Transactions*.* We would recommend the members

* Two or three short cases which remain will be found in the *Periscope* of the present number.

of the respective Associations from which they emanate to exert themselves to maintain not only their own scientific character, but that of the medical profession of Great Britain. We will always endeavour to aid such an object, and to give all the publicity in our power to those papers which are calculated to promote it.

OBSERVATIONS ON THE TOPOGRAPHY, CLIMATE, AND PREVALENT DISEASES OF THE ISLAND OF JERSEY. By G. S. HOOPER, M.D.

THIS little volume, which appears to have been carefully compiled, contains much that is merely of local interest to the inhabitants themselves, such as suggestions respecting improvements, &c. &c. Still it exhibits many facts and points of information not uninteresting to the medical profession of Britain generally. We shall endeavour to cull out this species of material from the volume for the benefit of our readers.

Jersey is the largest and most southern of the "Channel Isles," and has a superficies of about 40 thousand acres, variegated by hills and vales, the ground generally sloping down, however, towards the South. The soil is a deep sandy loam, with a sub-soil of clay, based on granitic rocks. The island is very fertile. In the inland or elevated parts of the island the water is very pure, and soft—in the lower parts of the island, the water contains more saline ingredients, and is rather hard, as well as turbid after rains, having a rapid taste, and disagreeable odour. The population is about 40,000—industrious—but not very temperate. Wine and spirits are too cheap!

The climate, as might be expected from the situation and small extent of the island, is "remarkably mild." It is, however, habitually damp, independently of the nature of the surface, and the quantity of rain that falls.

The mean temperature of the island at St. Helier's is 53°—the entire range of the mercury (in five successive years), being 62°—the two extremes 88° and 26°. August is the hottest, and January the coldest month. The mean variation between successive months is 3° 67'. There are some sudden variations of temperature. The mean daily range at St. Helier's during five years' observation, was 11° 70'.

DISEASES OF THE ISLAND.

Intemperance has already been hinted at.

"A very fertile source of disease, in this otherwise happy spot, arises from an excessive use of ardent spirits, the mean price of which is attended by the double evil of increasing temptation, and facilitating indulgence. Among the labouring classes, especially, this disgraceful and ruinous habit produces incalculable mischief. But this remark does not, I am sorry to say, apply to that portion of our little community only; and it is a melancholy truth, that superior

education,—which ought to open the mind to a due sense of decorum, consequences, and moral obligations,—does not always effectually guard it against this debasing propensity. On the contrary, instances are not wanting, here, of men, who after an honorable and active life, find in the comfort and retirement formerly desired, and to which this favoured spot is so well adapted, nothing but monotony, and insufferable dullness. For the want of intellectual resources, they seek, by the stimulus of liquor, to dissipate the *ennui* which oppresses their vacant minds. And, even, when this dangerous practice does not draw such persons into habitual drunkenness, it most commonly forms an error in diet, the effects of which are, sooner or later, displayed in a variety of consequent disorders." 142.

This picture, we fear, applies to a large class of half-pay officers from both services, who find, in Guernsey and Jersey cheap eating and drinking—their chief solace after a life of activity—and when all means of employing either mind or body are sought in vain!

This island is not distinguished by the prevalence of any particular disease. The most frequent are—

"1.—In *infancy*, catarrhal affections; remittent fever, often complicated by acute hydrocephalus. 2.—In *childhood*, catarrhal affections; subacute inflammation of the bowels. 3.—In *adolescence*, continued fever; pleurisy. 4.—In the *adult age*, gastric affections; bronchitis; rheumatism; chronic bronchitis; chronic pleurisy, with effusion; dilatation of the right cavities of the heart, without hypertrophy; ascites." 144.

The island presents, of course, a fair proportion of most other maladies, in consequence of the great number of strangers that are constantly sojourning in that place. It is said that scrofulous affections are more numerous in Jersey than in other parts of similar latitude; but this is doubted by our author. He avers, however, that although many of the exciting causes of phthisis, as inflammatory affections of the air-passages, are plentiful in the island, yet consumption itself is more rare than in England. And here the author takes up the subject of remedial agency of the Jersey climate. He has observed that tubercular consumption proceeds very slowly, in many cases,—so much so that doubts are occasionally entertained whether or not the disease be actual phthisis. This is the case with chronic diseases generally in the climate in question. Arguing from these facts, and from an observation of thirteen years' experience, he thinks he may fairly represent Jersey "as a sort of initiatory climate, for individuals, who, from a protracted sojourn in tropical latitudes, have been rendered unable to resist the inclemencies of less favoured situations."

"During nearly three-fourths of the year, the soft and equable character of this climate, joined to a moderate temperature in the two extremes, will generally, prove beneficial in the incipient stage of pulmonary consumption, when the subjects of that most fatal of all human diseases, have, hitherto, lived in less temperate regions. This affection is, most commonly, ushered in by a marked period of irritation, requiring depletion, and sedative remedies; both of which means will take greater, and more durable effects under our sky, than in situations subject to more extensive variations, and ranges of atmospheric heat. It would be difficult to understand upon what just grounds this climate could have been supposed unfavorable to invalids liable to hæmoptysis, unless it was in the last stage of tuberculous consumption. For the truth is, hæmoptysis, whether as an idiopathic disease, or as a complication of phthisis, is, here, comparatively rare, local agencies tending much more to prevent, than to induce a

plethoric state of the system, And, indeed, many instances have come under my observation, of hæmoptysis having been effectually checked by a residence of one or more winters in this island, when no organic disease of the lungs existed, and when the hæmorrhage was simply the result of local congestion," 190.

We have thus picked out the chief points of interest to the general professional reader. There are many topics of a local, topographical, and domestic nature which will be read with interest by those who reside in Jersey. In respect to the attractions which its climate may possess for phthysical invalids, we confess that we do not hold them in very high estimation. The fact of catarrhal and inflammatory affections of the chest being common in the channel islands, ought to make us pause, notwithstanding the ingenious arguments of our author, before we recommend any one labouring under hæmoptysis or tubercular disease to locate himself in Jersey. This and its sister isles, however, will ever present most potent attractions for all those who love a glass of grog and a bottle of wine for one third the price of those articles in England. The cheapness of living, too, must induce many families labouring under the "*res angusta domi*," to remove to a climate which is mild, and to a land where the necessities of life are cheap.

ON THE USE OF MERCURY IN THE VENEREAL DISEASE.

I. PRACTICAL OBSERVATIONS ON THE VENEREAL DISEASE AND ON THE USE OF MERCURY. By ABRAHAM COLLES, M.D. One of the Surgeons of Doctor Stevens's Hospital, and lately Professor of Surgery in the Royal College of Surgeons, in Ireland. 8vo. pp. 351, Sherwood and Co. London, 1837.

II. THE WORKS OF JOHN HUNTER, F.R.S. With Notes. Edited by JAMES F. PALMER, Senior Surgeon to the St. George's and St. James's Dispensary &c. &c. In Four Volumes. Illustrated by a Volume of Plates in Quarto. Vol. II. London, 1835.

III. HISTORICAL AND MEDICAL RESEARCHES INTO THE ORIGIN, NATURE, AND TREATMENT OF SYPHILIS. By M. DEVERGIE, Sen. Translated by JOHN SINCLAIR INNES, Surgeon. 18mo. pp. 63, 1837.

THE modern Lacon, in one of his aphorisms, declares that all which medicine has been able to effect in sixty centuries, has been the discovery of two specifics, mercury and brimstone. If this had been all, it would have been but little, nay less than even the sarcastic epigrammatist supposed, for the first specific, mercury is considered by many to be no specific at all. A pregnant instance of this curious fact may be found in the juxta position of the three works, whose titles we have placed at the commencement of this article.

The first, by Dr. Colles, is devoted to the object of shewing the necessity of salivation for syphilis: while the third, by M. Devergie, is intended to point out the folly obstinacy, and ignorance of those who pursue such irrational treatment.

The enthusiasm of our neighbours appears strange, almost ridiculous, in the eyes of a people so practical and sober as ourselves. We cannot repress a smile when we see such enthusiasm excited by occasions which seem to be little calculated for the purpose, and that smile is too apt to be tinged with contempt, when substantial advantages and positive results are sacrificed for that honour or glory, which are ever in a Frenchman's heart and mouth. Yet our more phlegmatic temperaments, so useful to us as a commercial people, are perhaps too little qualified by a generous desire of mere distinction, and the constitution of society, which grows out of our national character, has contributed to give a mercenary tone to every calculation. Where a French savant aspires to the cross of the legion of honour, an English philosopher is pondering on what may make his fortune: and while the science of the former is devoted to the improvement of the arts of life, that of the latter is more profitably engaged in their application. But to return to our proper subject.

Dr. Colles draws the following picture of the present state of our knowledge with respect to syphilis:—

“When we recollect, that for three centuries and upwards, medical men throughout all Europe, have been employed most extensively and uninterruptedly in the treatment of this disease; that during almost the entire of that period a remedy has been known which possessed the power of curing this disease; that this remedy, since its first discovery, has undergone a variety of modifications and combinations, supposed to render it more suited to particular states or forms of the disease; that, in addition to this, some other remedies, and other plans of treatment, have been found to effect its cure; when, I say, we take all these facts into account, surely it might be reasonably expected, that with all these advantages, we should by this time, have arrived at a knowledge of fixed rules for its treatment, and have acquired such a command over it, as to be able to say, that we can control its course and check its ravages.

Yet I think it is not an exaggeration to assert, that at no period, since the disease was first subdued by mercury, has the opinion of Practitioners been more divided and unsettled, or their treatment more wavering and unsuccessful.

Anxious to have this reproach wiped away, not merely because it involved the character of the Profession, but rather because it too clearly showed that the human race was suffering severely from our imperfect knowledge of the treatment of this disease, I sought to discover the causes of our backwardness. After mature consideration, I was led to attribute it principally to two causes:—

First. The imperfect knowledge we possess of the natural course or natural history of the Venereal Disease.

Second. The very imperfect knowledge we possess of the means of directing the operation of mercury, so as to make it act in a salutary manner; and the equally imperfect knowledge we have of the earliest phenomena which would indicate that it is beginning to act as a poison rather than as a remedy.” vi.

These are valid reasons for any communications from a practical and observant man, upon this apparently perplexing disease. It is for the same reasons that we have on several occasions devoted many pages of this Journal to the subject; and, for aught that we can see, if such reasons are to sway us, we have to devote many more pages still. The plan pursued by Dr. Colles may be stated in his own words.

"I have stated in detail such observations as I have made as to the progress or natural history of the Venereal Disease; and I have offered some remarks on the mode of administering mercury, so as to induce the salutary action of this medicine. I have, also, attempted to point out a few early indications which denote that its action will become poisonous if its use be persevered in; and I have detailed many of the symptoms of Syphilis, and stated my opinion as to their appropriate treatment." vii.

"From this statement then, the reader will not expect to find in the following pages a systematic treatise on the Venereal Disease; on the contrary, some symptoms have not even been mentioned, and others have been noticed only in a cursory manner. The remarks which I have offered are merely the result of my own observations and reflections. Of what value these may prove, I leave to my professional brethren to decide; only assuring them, that the facts are stated with the most scrupulous fidelity.

To the observations on the use of mercury in Syphilis I have added some observations on the use of this medicine in the treatment of diseases not venereal. In this second part of the work I have studiously avoided any mention of its use in the diseases in which its efficacy is generally known and long established; and I have designedly and strictly confined myself to those in which it has been only very rarely employed, but in which I have had the good fortune to have found it a most active medicine, and a most speedy and invaluable remedy." viii.

The work is divided into two Parts. The first treats of the Use of Mercury in Venereal Complaints—the second treats of the Use of Mercury in Affections of the Nervous System. The first part contains fifteen Chapters, with the following titles. 1. On the Natural History of the Venereal Disease; 2, On the Administration of Mercury; 3. On the Same; 4, On Chancre; 5, On Bubo; 6, On a Disease of the Lymphatic Glands of the Groin, attended with Peculiar Symptoms; 7, On Secondary Symptoms; 8, On Venereal Diseases of the Mouth, &c.; 8, (*bis*), On Venereal Eruptions, Nodes, and Diseases of the Testicle; 9, On the Use of Mercury in Venereal Hectic Fever; 10, (*bis*), On Mercury during Venereal Eruptions; 11, On the Treatment of Syphilis in Scrofulous Patients; 12, On Minute Doses of Mercury in Late and Chronic Bubo; 13, On Syphilis in Infants; 14, On Pseudo-Syphilis; 15, On the Non-Mercurial Treatment of Syphilis.

A glance at the headings of these Chapters is sufficient to demonstrate the absence of any natural arrangement of the subjects upon which the author treats. We may therefore take any liberty we please with such desultory observations, and throw together parts which are disjoined in the original.

The present article will be confined to the examination of the propriety of exhibiting mercury in syphilis, and to the natural course of the latter. We shall therefore begin with the last Chapter of Dr. Colles' book, and place by its side the observations of M. Devergie. We will commence with the latter, and we think it will soon appear that the extravagant enthusiasm of his nation is displayed in a striking manner in his pages.

It is unnecessary for us to enter on the history of the Venereal Disease, or of the application of mercury to its treatment. Suffice it to say, that the latter was not regulated by scientific principles, and that it was given to a ruinous extent as well as under most unfavourable circumstances. Various attempts have been made to substitute other remedies for mercury in the treatment of syphilis. Each has been partially, none wholly successful. As the horror of mercury has long struck deep root into the minds of men, these

failures must be deemed presumptive evidence, that common experience has decided against the general success of anti-mercurial methods.

But although these did not supersede the use of mercury, they opened the eyes of men of observation to the errors which had prevailed with respect to the absolute necessity for the latter, and they tended strongly to correct the abuses which had prevailed in its administration. Salivation was carried to a less frightful extent, and it began to be a question what symptoms were, and what were not adapted for its application.

It was about the beginning of the present century, that the attempts to cure syphilis without the aid of mercury, were once more generally made, and that the numerical method was extensively employed as a test of their success. Those attempts were certainly commenced and carried on most fully by English, and, particularly, by our army surgeons, though M. Devergie has ingeniously endeavoured to arrogate the merit to his countrymen.

It would be saying no more than the truth, to observe, that the results took the Profession by surprise, and that numerical data, apparently unobjectionable, seemed to establish, in a decisive manner, the superiority of the non-mercurial over the mercurial method.

Leaving this Country for a season, we shew from M. Devergie's pages, what has taken place in France. If his statements are to be implicitly received, the non-mercurial plan has flourished in that country, and the mercurial will, ere long, be almost extinct. After citing the names of a few who had distinguished themselves in opposing the old doctrines, M. Devergie goes on to observe:—

“The school not less celebrated for its physiological doctrines, (of which Val-de-Grâce has the honour not only of being the birth-place, but also of reckoning among its inhabitants the worthy founder of this school,) furnished physicians who, young in years, but strong in the good principles derived from so fruitful a source, entering the list, contributed by their enlightened and novel researches to overthrow the ancient edifice, in order to elevate a new one more regular and more worthy of modern knowledge. Every day sees an increase in the partisans of this new treatment of syphilis. These ideas are not confined to the circle of French physicians; they have spread themselves among strangers—into England, America, Sweden, Denmark, and some parts of Germany, the same systems having been tried, the results have soon surpassed their expectations. We shall now be able to make known to you the results of this new method, and lay before you the observations collected as to it, as known under the name of the antiphlogistic system, known equally under the denomination of the simple and rational method; a method against which there has been an outcry from all parts, which has been condemned without being understood; been disputed every day, against which some men high in medical reputation, have daily hurled from the height of their chairs, anathemas and ridicule, and endeavoured to persuade their pupils that they are dragged into a false and deceitful route, in teaching them principles which they have it in their power to verify at the bedsides of the sick.” 28.

Then comes the history of the progress of the anti-mercurialists in France.

“Chaussier of immortal memory, regarded mercury as of little use in the treatment of syphilis. In 1811, the late Gerardot, the friend and rival of the author of ‘the Chronic Phlegmasiæ,’ taught me the art of curing all the chronic

syphilitic phlegmasiæ by the dietary system; whilst at the same time, Baron Larrey brought about a happy change in the administration of mercury, that rendered the treatment more simple, easy and less dangerous, so that it has since been made the method of M. Pihorel. In 1811 and 1812, appeared successively the works of Caron upon a new mode of considering the syphilitic contagion; the considerations of M. Jourdan upon syphilis, the work of M. Keraudren, physician in chief to the navy, upon secondary syphilitic symptoms, and the exclusion of mercury from their treatment, and afterwards the valuable proposition of M. Broussais upon syphilis.

In 1824 were published the considerations of M. Lefevre upon the abuse of mercurials, and the essay upon the venereal disease of M. Dubled; the year 1826 saw appear the treatise on the venereal disease of M. Jourdan, the work upon the non-existence of the Syphilitic virus of Dr. Richmond, accompanied with tables of the first treatment without mercury, at the military hospital of Strasbourg; at the same period appeared the first part of the 'Clinique of Syphilis,' since become a complete treatise on Syphilis, with 125 plates, a work for which I had lately the respects of the academy. In 1827 was published in a medical journal, the report of the *College Sanitaire of Sweden*, upon the advantages of the treatment without mercury. Almost at the same period, also, the council of health of the army, thoroughly persuaded of the advantages to be obtained by changing the mercurial treatment, induced the heads of the military hospitals to make trial of the simple and rational treatment. In 1828 and 1829, M. Desruelles made known the statistical results of the simple treatment employed at Val-de-Grace for the cure of venereal diseases. I have published in 1830, in the 15th, 16th, and 17th parts of my 'Clinique,' the tables of MM. Rapatel and Desruelles of Rennes, who in 1827-28-29, treated 1410 patients by the simple treatment. I must mention also the works of M. Willaume, surgeon-in-chief of the hospital of instruction at Metz, upon the advantages of the anti-phlogistic system, and those of M. Puel of Marseilles. I have to tell that at Lille, Havre, and Bayonne, Drs. Delatour, Desjardins, and Becquart treated in the hospitals their patients by the simple treatment. I must not forget to mention the opinion of the late Delpech of Montpellier, who, imbued with ideas of virulence, treated, for a long time, the disease with mercury, lavished in all its forms, who, enlightened by degrees through experience, modified to such a state his ideas and treatment, that he published in 1828, that gonorrhœas and chancres might be completely cured by the efforts of nature solely, ninety to ninety-five times per cent., and that nature alone had cured one-half of the ulcers of the throat, pustules, radesyge, &c. Since 1830, I have received new proofs that, united with those communicated by my colleague and friend Dr. Desruelles, have gone to prove that at this time the simple rational anti-phlogistic method ought to be adopted as a *general method* in the treatment of syphilis, whilst that the mercurial is used more as an *exceptional method*, employed in those cases where the simple system might have been found to be insufficient. Thus, at Rennes, the simple treatment, by procuring such advantages, the disproportion between the two kinds of treatment is become excessive. Out of 1505 patients affected with primary symptoms in 1827-28-29, 1187 had been treated without mercury, and 318 by mercury; whilst during eighteen months of 1830-31, 876 symptoms were cured by the simple method, and only forty-eight by the mercurial. This amelioration is still more sensible in the employment of the means for curing relapses; for in sixty-four relapses after one or other methods of treatment, twelve only were subdued by mercury; these twelve cases required for themselves alone 1062 days, whilst the fifty-two others took only 1863, so that it allowed to each case of the first eighty-one days, whilst for each of the second it was only thirty-five days. At Val-de-Grace Dr. Desruelles and myself have obtained summaries since 1825, with results not less advantageous. M. Barthélemy, at the military hospital of *la Maison-Blanche* (Paris), in 1833,

had also to treat more than 700 syphilitic patients by the same method, and employed mercury only in a certain number of secondary affections. M. Kaiser, at the military hospital of Strasbourg, treated equally with the same success, by this method, for three consecutive years. At Algiers M. Fleschutt, surgeon-major to the hospital of the Dey, obtained also a great success by the simple and rational treatment, and for three years has to congratulate himself with having renounced mercurial preparation. At the syphilitic hospital of Paris, this method was made trial of by M. Cullerier; and the documents published by MM. Ruft and Pailloux of Chambereari, in 1831 and 1832, proving that the antiphlogistic treatment had been making progress for some years, and possesses real advantages, that are appreciated there. Indeed, out of 512 patients, 339 were cured by the simple treatment, the mean duration being thirty-two, whilst of the others it was forty-seven by the mercurial method. The relapses after the simple treatment have been one in twenty-eight; and the physicians of this establishment have been so sensible of the advantages of this simple and rational method, that there did not exist (in 1834) a more complete mercurial treatment, than that mercury is there employed as a powerful alterant of the economy only in those cases where the other methods have been used without success, and in general in small doses. For one year that I have had the charge of the first division of venereal patients at the military hospital of Gros Caillon, I have continued the same mode of treatment, and have not had recourse to mercury but in exceptional cases that have not yielded to a simple treatment." 33.

The following short notice of the labours of the English, and the candid exposition of our professional constitution are characteristic.

"The English Physicians have entered the lists, and have treated without mercury, but not without exciting medicines, so that, with the exception of the works of Thompson, Turner, Brown, Ewans, Hennen, and some others, to which we may add the names of Guthrie and Sir Astley Cooper, we must reject the writings of the other English physicians, for they did not assist, but rather discredited this anti-mercurial system, without any advantage to their patients, who encumbered the hospitals uncured. But this need not appear astonishing to you, gentlemen, that it has been so long thus in a country where, with the exception of some of the principal physicians and surgeons, the physician and apothecary are one and the same; where the hand that writes the prescription at the bedside of the patient passes into the shop for its preparation." 34.

That "Old England" could be compared "with Young France" in intelligence, was, of course, not to be expected. The former has not enjoyed the advantage of a Val-de-Grace, of the great physiological doctrine, of the author of the *Examen*, nor of the sucking "physiologists," who have sprung from his scientific loins. But it is rather singular that, considering the unbounded love of M. Devergie for the anti-mercurialists and their views, he should have found it in his heart to hold at so cheap a price the labours of Thompson, Ferguson, Rose, Hennen, Guthrie, &c., and the reports of these Gentlemen extending from the year 1801 to 1823. According to his own shewing, it was only in 1811 that the late Gerardot taught him, M. Devergie, the art of curing the syphilitic phlegmasiæ dietetically, and it was only about the same time that the valuable propositions of M. Broussais appeared. Were the English, then, so very far behind? Has their application of statistics been so very late? With the utmost liberality, it is impossible not to perceive that M. Devergie is a vain-glorious man, puffed up with a frivolous amour-propre and amour de patrie.

But these are personal considerations, and, if we turn from them to the practical part of the question, we find that, in France, the non-mercurial treatment would appear to have met with a good deal of favour. M. Devergie introduces at the end of his work some results of trials conducted rather extensively by himself. But they are so confused that we must waive their insertion, and content ourselves with stating, that, like the reports from the non-mercurialists in this Country, they go to prove the superiority in point of success, of the simple antiphlogistic over the mercurial method.

So far as numerical comparisons go, the non-mercurial would appear to be superior to the mercurial mode of treatment. If any thing is clear this seems to be so. As this is an age in which a reverence for antiquity and a dislike of change are by no means prevalent faults, we might suppose that the mercurial treatment is pretty generally given up, and that the best informed surgeons have verified by their individual experience, results so decisive and so irrefragable as those established by the documents to which we have alluded.

We will turn to Dr. Colles and inquire of him the state of the case in Dublin.

"When this plan," (the non-mercurial treatment) "first attracted the notice of the surgeons of Great Britain, both my colleagues and myself," he says, "adopted it in our hospital. In general we confine this treatment to men who had not used any mercury; but as in Dublin it is extremely difficult to meet with venereal cases in hospital, who have not applied to some apothecary, or received medicines at a dispensary, we could not adopt it as the general practice of the institution. However, we tried it until we all became convinced of this fact,—that it was not suited to patients who were obliged to earn their bread by labour; for we saw that after they had left the hospital, and got into employment, they generally found themselves weak, and unequal to their usual labour; and often, at the end of two or three months, they returned emaciated, pale and enfeebled, in consequence of the hectic form of fever which was about to usher in a new series of venereal symptoms. Their stay in the hospital also proved, in general very protracted: so that they then became impatient of this treatment, especially when they saw others with similar symptoms, in the same ward, have their complaints more quickly cured by the use of mercury. In private practice, also, I employed it for a time: but not finding it superior in point of quickness of cure, or of security against a relapse, and observing that these relapses were more frequently reiterated, in a short time I ceased to employ it, except at the express solicitation of the patient. But I had many opportunities of witnessing the results of the practice of some of my brethren, who adopted it more fully. Of course I could not know much of those cases in which this practice was successful; but in many of those who suffered from secondary symptoms, and from relapses of the different series of secondary symptoms, I had melancholy proof that this treatment was too often unequal to remove syphilis. No doubt fewer of the non-mercurial patients complained of affections of the bones, than those who had been ineffectually treated by mercury; but I saw instances of closed pupil and opaque lens, produced by iritis which had been neglected, not having been considered as venereal symptoms. I have seen many cases where the soft parts of the throat had suffered severe mutilations; and, above all, I had too many opportunities of watching the very slow and silent, but sure inroads, which the often-repeated attacks of secondary symptoms made on the constitutions of the patients; of witnessing this phenomenon,—that the venereal disease, from year to year, showed itself with less striking characteristics, while other diseases appeared to spring up; so that for some months before the death of such patients, it would require a close examina-

tion to discover the one or two slightly-marked symptoms of syphilis which remained; and also required close research to trace the symptoms of apparently the last and fatal disease to its true source, the infection of syphilis. But on tracing the state of health, from the primary ulcer down to the final and fatal disease, I could clearly see that at no period was the unhappy sufferer altogether free from the venereal disease; so that both the patients and their friends, in many instances, lost sight of the original syphilitic disease, and referred the death to some other apparent cause, such as ascites, or some disease of the lungs. Nor is it to be wondered at, that non-professional persons should form such an erroneous opinion, seeing that the course of some of these fatal cases had occupied a period of four or five years, between the appearance of the primary ulcer and the fatal event. In a word, after the experience of one year's full trial of the non-mercurial plan, we have since, in our hospital practice, only employed it rarely, and generally in very mild slight cases of primary symptoms." 319.

After some other observations to which we shall presently advert, Mr. Colles goes on to observe:—

"I think it must, however, be admitted, that the non-mercurial plan has not fully answered the expectations of its early admirers. All will allow, that many cases of syphilis have resisted this treatment, and were afterwards cured by mercury. Let us revert to the history of its introduction. It was introduced at a time when (in Great Britain) mercury was rather in disrepute; and when in the Peninsular army the venereal disease, treated by mercury, was making frightful havoc among the soldiery. It was tried on a scale beyond that of any other medical experiment, and under circumstances the most favourable; the patients being subjected to military discipline and restraint. In civil life it would naturally obtain a preference from both patient and surgeon; the former would be relieved from all the horrors of a mercurial course, the latter find in it a line of practice simple, plain, and safe; one that required not any extensive observation of the venereal disease, or any nice and accurate judgment in the employment of the remedies. Yet it has not superseded the mercurial plan of treatment: on the contrary, it seems now, after a trial for twenty years, to have fewer and less warm admirers. This may possibly be fairly accounted for, by observing that this plan subjects the patient, especially when the symptoms are of an inflammatory character, to the most rigid quiet, even continued confinement to bed, to repeated bleedings both general and local, to the long-continued use of nauseating medicines, to frequent purging and very low diet. So that during the treatment, the patient is subject to all this severe discipline; and, after it, suffers a proportional degree of weakness; and, to all this, I am disposed to add relapses more frequently repeated, although less severe than those which follow after the mercurial treatment." 320.

The preceding passages represent the results of the observations of practical men, not only in Dublin, but in London, and not only in these towns, but throughout the empire. How comes it that if the non-mercurial method were really the best, it has made no progress for many years, in that Country where practical medicine is most successfully cultivated? This is an argument which is not easily met. It is an argument not founded on partial, but on general statistics, not merely on a few experiments in which results may be vitiated by interest or by prejudice, but on the general experience of a profession.

If there were any substantial reasons for that profession shutting its eyes to the truth, if interest preponderated greatly on one side, such an argument would, of course, lose much of its force. But in a case where interest

cannot warp the judgment, where the current of human motives and feelings runs rather in favour of the new doctrine than the old, it does appear monstrously incredible that error should be preferred to truth, and that men should obstinately adhere to a practice which every-day experience demonstrates to be unnecessary, unsuccessful, and cruel. Let those who will, adhere to so repugnant a belief; we cannot, and we do not.

Of this we are quite sure—that, amongst the hospital surgeons of London, who must necessarily have extensive opportunities of observation, there is hardly one who is now an anti-mercurialist. Mr. Liston is the only exception we are acquainted with, and Mr. Liston brought his views from Edinburgh. Mr. Liston's reputation, too, is rather that of the knife, than of ordinary practical attainments. But out of these same hospitals surgeons we are acquainted with several, who were struck with the force of the facts detailed by the non-mercurialists, and who, in consequence, tried the anti-phlogistic method. They have abandoned it because they found that on the whole it did not answer, and was inferior to the mercurial. In the Lock Hospital, of London, the former plan was adopted, and was given up for the same reason.

It is to be regretted that these experiments have not been conducted in so satisfactory a manner as they might have been. Surgeons having convinced themselves of the fallacy of the conclusions of the anti-mercurialists, have not taken the trouble to collect and to arrange the data which might numerically convince others. Hence the absence of those positive statements on the part of the mercurialists, which play so imposing and seductive a part in the pages of their adversaries. No doubt, there are some other reasons for the absence of statistical facts, but we fear that the principal is that apathy on scientific questions so conspicuous in this country, amongst all classes of medical men.

We believe, then, we are not far wrong in pronouncing that the common experience has decided against the non-mercurial method as one of general application. But we are sure that the same experience has decided in its favour as one of partial application. It would be the height of injustice to deny to the anti mercurialists the merit (no slight one), of having mitigated the mercurial code—of having disabused the minds of the profession of the erroneous notions formerly so prevalent, with respect to the irremediable characters of syphilitic symptoms by any but mercurial remedies—of having laid the first stone in the work of distinguishing the effects of the venereal poison from those of mercury, and the consequences of either, singly, from the joint operation of both. If the labours of these gentlemen have done this, which we are certain that they have, they have done much for science, and still more for humanity. We seldom see the mutilated countenances, the ulcerous skins, the crippled limbs which formerly constituted the too frequent disgrace of science and horror of society. The diseases of the bones, more particularly, have decreased, and the phagedænic ulcerations both primary and secondary, are comparatively rare, and, when present, are usually produced by obvious general causes. For all this, we repeat, that we must thank the anti-mercurialists.

But it is rather indirectly than directly that this good has been effected—it has not been by adopting the anti-mercurial, but by modifying the mercurial treatment. In this view, Dr. Colles coincides.

"We must acknowledge, "he says," that the profession is highly indebted to those who have lately introduced the non-mercurial plan of treatment; for we have now not only acquired a second line of treatment, for venereal cases; but, what is of the highest value, we have been released from an inveterate and deep-rooted error—from an unfounded conviction that the venereal disease could not be cured by the innate powers of the system, unless aided by mercury. I need not add, that all the opinions and practices consequent on this prejudice have been subverted." 319.

It is obvious, that the question of the superiority of one method of treatment to another, and particularly in such a case as the present, is not to be determined by argument but by fact. We have not therefore indulged in abstract or theoretical considerations, but simply balanced the evidence on one side against that of the other. The anti-mercurial evidence is very explicit, very direct, and, apparently, very strong—the mercurial is less direct, less explicit, and, consisting of the sum of general opinion, its cumulative strength is less capable of condensation and of demonstration. For our own parts, we must own that our experience has gone against the anti-mercurial method—that, so far as we have been able to judge, secondary symptoms have been frequent after its employment—that it is tedious at the best—uncertain in most cases—and unsuccessful in many. Like Dr. Colles, we have witnessed instances, where the patients have gradually declined and sunk from phthisis or from other visceral affections, and in which a candid review of the symptoms seemed obviously to refer them to syphilis, uncontrolled by mercury. In short, so far as our means of reasoning on facts will carry us we are distinctly of opinion that a mild and a judicious employment of mercury, is the most successful mode of treating syphilis which has yet been discovered.

But perhaps there is no case in which more knowledge and more judgment is requisite, than in the application of mercury to venereal symptoms; and, perhaps, also, there is none, in which less knowledge and less judgment are too generally exhibited. Few, very few, either do or can study the venereal disease scientifically. The constitution of our hospitals, where alone medical men, young or old, can really become acquainted with it, seriously interferes with that study. Yet no man, from the chemist's apprentice upwards, seems to hesitate, for an instant, to treat a complaint which he must be conscious that he does not understand, or to exhibit a remedy which may do so much good or so much harm, just as it is appropriately administered or not. A singular and an unfortunate state of things.

Syphilis is not a simple series of phenomena, one of which has to the other a constant, and therefore a determinate relation, but a collection of symptoms which differ in appearance, in course, and in consequences. To increase the difficulty which must necessarily attend the study of such a disease, some of those symptoms are common to other conditions of system, besides the syphilitic. The phenomena of cachexia, for instance, are similar, whether that has resulted from the venereal poison, from mercury, from both conjoined, or from other causes. There is still another source of confusion. Syphilis is seldom allowed to run its course, unaltered by active treatment of some sort. From the operation of these circumstances, we are imperfectly acquainted with what Dr. Colles not inaptly terms the "natural history," of syphilis, and this imperfect acquaintance on the part of other-

wise well-informed surgeons degenerates into very lamentable ignorance on that of too many others.

In order that mercury should be judiciously applied to the treatment of this complaint, the following facts must be determined:—1, the natural course and characters of syphilitic symptoms; 2, their modifications from the great constitutional diatheses, &c.; 3, the effects of mercury upon the system; 4, the effects of mercury upon the syphilitic symptoms, and the modifications of those effects by the disturbing circumstances of diet, season, and diathesis; 5, the effect of other remedies and modes of treatment; 6, the phenomena of those disorders, which, however induced, resemble syphilis, their discrimination, and their management.

It is almost evident, *ex necessitate rei*, that these circumstances should be determined before so grave a malady as syphilis *may* be, is treated by so powerful a remedy as mercury *is*. Yet how many practitioners, medical or surgical, have taken the trouble to resolve any one of them, and how few have hesitated to subject the disease in its worst and most complicated forms to a bold and hazardous empiricism? We leave the answer to our readers.

It might appear unnecessary to insist on a proper understanding of the *modus operandi* of mercury. Every student would almost feel affronted at the supposition that he did not know it thoroughly. Mercury, he would say, acts upon the liver, the skin, the salivary glands; and it exerts its specific action against syphilis. All this is very scholastic, but very superficial. If the same student were asked—"for what symptoms of syphilis is it useful, and for what injurious—how do you know when it is curing and when it is likely to aggravate the malady—what principles have you laid down for your guidance in its exhibition or its suspension?"—if asked we say such questions, most students and far too many men in practice would return but an unsatisfactory reply.

In an article on the venereal disease, published some four or five years ago, we remarked:—"we apprehend that the blind confidence in specifics is rapidly diminishing, and certainly the treatment of syphilis by its specific, mercury, is one of the most difficult problems in experimental medicine." To those sentiments we still adhere, but the case of mercury is a remarkable instance of the influence which a name exerts on the minds of the majority of men. The belief in its specific properties has been a damper on rational investigation, and mercury has for centuries been blindly administered, under circumstances the most opposite, and conditions the most unfavourable, simply because, being a specific, men would not give themselves the trouble of enquiring when its specific properties were best exerted, or how. The following observations by our author on this subject are so judicious that we quote them:—

"Hitherto, and indeed at this very day, surgeons have been very unreasonable in their expectations of the powers of mercury. No doubt many weak minds, misled by a name, have thought, if they administered mercury, which is considered a specific, they must cure the venereal disease. Yet it is strange that men have dealt more justly with other specifics; thus Peruvian bark is looked upon as a specific for the cure of intermittent fever; and it will, if judiciously administered, succeed in a great majority of cases of this disease; but still all must allow, that this specific may not only not cure, but may aggravate this disease, and even induce others of a more dangerous nature—if, for instance, it be given when the stomach and bowels are loaded; the same unfortunate result

will also follow its use, if it be given at an improper period, ex. gr. during the paroxysm. Or, again, if it be directed in doses unfit in point of quantity, it must be acknowledged that it has failed; thus if given in very small doses, it will prove unequal to arrest the progress of the disease; or, if given in excessive doses, it will derange the stomach, so that this organ can no longer retain it. I need not add, that this specific must also fail if it be administered when the constitution has been much broken down, and when a material derangement of structure, in any important viscus has been induced by the long continuance of the intermittent fever. Now when we come to recollect that the intermittent fever is a disease pursuing a single and regular course, we must see how much more easy it is to lay down plain and simple rules for its treatment, than we could do for a disease so complicated as syphilis is. Again, although Peruvian bark is in intermittent fever, and some few other diseases, an useful and effective remedy; yet we know that it is not possessed of such active powers over the animal body as mercury is; and, therefore, that when mismanaged, it will not be productive of as much mischief. Let us not impute to mercury more evils than those which really belong to it: let us draw a distinction between the judicious use of this powerful medicine, and the mal-administration of it. When we recollect how very universal the venereal disease is, how very numerous its symptoms in every one of the stages of this disease, how strangely these symptoms are modified by the habit of the patient, or by accidental circumstances—ex. gr. by inflammation; when we call to mind the astonishing powers of this medicine over the animal economy; and when, in addition to all these considerations, we reflect upon the immense number of injudicious, ignorant, uneducated persons, who fearlessly and constantly venture to undertake the treatment of syphilis by mercury, surely the wonder should be that it has not done infinitely more mischief in such hands.” 322.

As we wish to disseminate as correct notions as possible on the subject of lues venerea, we shall pursue, as methodically as circumstances will permit, the plan at which we have hinted, and, as well as we are able, exhibit the course and characters of the disease—the effects of mercury, and the principles which should regulate our administration of it—and, finally, we shall touch on those debateable cases which are grouped under the generic designation of cachexia. It would be out of the question, attempting to embrace so many, so difficult, and so important topics in one, or indeed in two articles, and we shall make them the subject of as many as they seem naturally to require, in successive numbers of this Journal.

1. NATURAL HISTORY OF SYPHILIS.

We shall commence, adopting the phraseology of Dr. Colles, with the natural history of syphilis. He devotes to it the first chapter in his book.

It may readily be granted, that morbid, like healthy action, has its laws. The phenomena of other diseases communicable by inoculation would induce us, *a priori*, to suppose that syphilis, like them, must naturally have a tendency to follow a definite course. But this has not, in the case of syphilis, been ascertained with the same precision as in that of small-pox, measles, or scarlet fever. The reasons must be plain. Those complaints run a rapid course, and when slight require no medical treatment, when severe are little modified by it. The opportunities for watching them, from their commencement to their termination, are consequently numerous. But syphilis pur-

sues a very slow course, and it is much altered by medicine. From the former circumstance, patients are lost sight of, or they become disgusted if they make no progress, and obtain other advice—from the latter circumstance, mercury is either voluntarily or compulsorily given, and the opportunity of watching the progress of the disease is lost. These considerations not only explain the imperfect acquaintance we have yet attained with respect to the characters, course, and consequences of syphilis, but they explain also the difficulties that still attend its study.

Dr. Colles remarks, that:—

“ We meet with nothing like a scientific description of the venereal disease in any of the earlier authors; in their writings we find only a mere enumeration of various local symptoms, without any arrangement or reference to their order of succession, and without any account of the course which any one symptom pursues through its different stages. Strange as it must appear, yet it is most true, and has proved most unfortunate for our science, that prior to Mr. Hunter's treatise on the venereal disease, the profession possessed no systematic account, no accurate description either of its primary symptoms, or of the period or the order in which its secondary effects usually occur. This invaluable treatise poured a flood of light, not only on the natural history of this disease, but also on its pathology and treatment. It was Hunter who first demonstrated with clearness and precision that secondary symptoms succeed the primary at an interval of six or seven weeks, and that they are generally preceded by an eruptive fever, which is ordinarily of an inflammatory type; he also described the third order of symptoms; and all this he has done with an accuracy and fidelity which the subsequent experience of the profession has amply confirmed.

It is much to be lamented, that Mr. Hunter did not prosecute his inquiries still further; that he did not, for example, trace the full progress of secondary symptoms, or mark their natural tendency to amend, and then again to relapse, each unfavourable change being preceded by constitutional disturbance, and that he has omitted to notice the probable period of time which these symptoms occupy from their origin to their acmé, and thence to their decline. Whether these omissions proceeded from want of time, or from his having adopted the opinion that the venereal disease ‘had no tendency to cure itself, or that the constitution was unequal to the cure of this disease,’ is now of little moment. But does it not appear strange, that subsequent writers have not made some effort to supply these deficiencies?” 4.

We cannot say that we participate with Dr. Colles in his admiration of Mr. Hunter's Treatise on the Venereal Disease. That treatise exhibits in the most striking manner the vices of his mind—an insatiable thirst of speculation, and the contradiction or evasion of very obvious facts when they interfere with his views. Bad as Mr. Hunter's style of reasoning is on too many occasions, it is peculiarly so in the Treatise on the Venereal. We grant that it should be compared with what had gone before it, and that when put into such a scale, it will be found to possess very weighty merits. But taking, it as a whole, we repeat that it is one of the worst of the treatises of Hunter. Take, for example, the following passage, in which Mr. Hunter denies that a child can be infected by the milk of an infected nurse.

“ The breath and sweat are supposed to carry along with them contagion, the milk of the breast is supposed to be capable of containing venereal poison, and of affecting the child who sucks it; but there are several reasons which overturn these opinions. First, we find that no secretion is affected by this poison, ex-

cepting where the secreting organs have been previously affected by venereal inflammation of irritation, or its specific mode of action. Again, if they were contaminated so as to produce matter similar to that of an ulcer in the throat, such matter would not be poisonous, nor possess a power of communicating the disease, as will be explained more fully hereafter." 384.

The point at issue is either a fact or it is not. If it is a fact, theoretical considerations will not upset it—if it is not a fact, they are scarcely requisite. What does Mr. Hunter do? He does not look at the question as one of fact at all, but he objects to it an unintelligible and absurd argument touching the secretions—an argument to which this answer may at once be given that we know too little of the matter, to admit of any *petitio principii*, or to receive any analogical consideration as conclusive.

As a pendent to this sample of Hunter's mode of reasoning, we may cite another passage a little farther on:—

"It is also supposed that a foetus in the womb of a pocky mother may be infected by her. This I should doubt very much, both from what may be observed of the secretions, and from finding that even the matter from such constitutional inflammation is not capable of communicating the disease. However, one can conceive the bare possibility of a child being affected in the womb of a pocky mother, not indeed from the disease of the mother, but from a part of the same matter which contaminated the mother, and was absorbed by her; and whether irritating her solids to action or not, may possibly be conveyed to the child, pure as absorbed; and if so it may affect the child exactly in the same way it did or might have done the mother." 385.

Here, again, we see a question of fact decided by speculation, and either confirmed or opposed by the most vague analogy and most unconditional hypothesis. We have never been amongst the extravagant admirers of Mr. Hunter, and however heterodox it may appear, we must say that we look upon his principal merits as those of an anatomist and physiologist. A man of little original education, and imbued with that contempt for learning which is usually characteristic of vulgar ignorance, his writings frequently display the substitution of terms for ideas, and of words for things, and afford a pregnant instance of the disadvantages under which a strong mind labours, when undisciplined by sound education.

We do not then lament, with Dr. Colles, that Mr. Hunter did not pursue the subject farther. Pathology had made so little advance, and Mr. Hunter's mind was so constituted, that we think no great good would have come of his labours. He would probably have plunged deeper and deeper into speculation, and the authority of his name would have rivetted many serious errors on the minds of the profession; for dogmas consecrated by authority are more difficult of removal than ignorance.

We believe that it will be of little service to pursue Mr. Hunter through his hypothesis. What good he really effected has become public property, and is incorporated with prevalent doctrines—what errors he committed are either known to be such, or will be discarded with the advance of knowledge, and must be attacked as substantive evils. We dismiss, therefore, Mr. Hunter's work with this reflection, that although it should be studied by every well-informed surgeon, it is not adapted for those who are not practically conversant with the complaint of which it treats. It should

rather enter into a course of reading on the history of the venereal, than form a part of the practical study of it.

Dr. Colles describes what he has actually ascertained of the progress of syphilis, when unchecked by the action of mercury. It does not amount to much, because, as we have already explained, the obstacles to our attaining precise information are almost insuperable.

"I have observed," he says, "that when the local symptoms have become fully established, which is probably in two or three weeks after they make their appearance, they then become stationary, and the constitution is relieved from the febrile disturbance. In this quiescent state the symptoms may remain for about three weeks, they will then show a strong disposition to amend, and sometimes they will proceed so far, as to impress the surgeon with a hope, and the patient with a firm conviction, that he is about to get perfectly well. But this illusion, having lasted for two or three weeks, is dispelled in general by a fresh attack of eruptive fever, and by an eruption or sore throat, although sometimes other symptoms, (iritis for example,) be added to those under which the patient had been previously suffering. How long the disease might continue in this condition of alternate improvement and deterioration, I cannot pretend to say, as I have not had an opportunity of witnessing in the same individual more than two, or at the utmost three, of those revolutions; from what I have seen of such cases I am led to say we may calculate upon each relapse as likely to recur every third month. These remarks apply to the secondary symptoms as observed for two, three, or four of the first revolutions.

At a later, and sometimes, though rarely, in an early stage of the disease, we find a somewhat different process ushering in a new attack; thus we sometimes observe that the patient, who during the four or five preceding weeks had been improving in flesh, colour, appetite and strength, now begins to exhibit a different aspect; his countenance alters considerably, it becomes sickly, his complexion assumes a waxen hue and he evidently loses flesh from day to day, and all this takes place while the patient himself is not at all aware of the change, and is still less suspicious as to its cause. In some time, however, the patient complains of night sweats, want of sleep, loss of strength and declining appetite, so that in the course of two or three weeks he is reduced to a state of great weakness and emaciation: this downward course proceeds steadily until a fresh order of symptoms appears and becomes established.

I must here remark that I have repeatedly observed these newly appearing symptoms to be, as it were, a repetition of those that preceded them: thus, for example, a patient may have had a papular eruption which remained stationary for two or three weeks, then began gradually to decline, so as to lead him to hope he was about to become totally free from it; but this eruption having faded to a certain extent, has then become stationary for two or three weeks, and the general health has improved; at the end of this time, however, the health again begins to suffer in the manner above described, nor does it cease to decline until this new train of symptoms has become for some time established. More commonly, however, this long-continued wasting is followed by some new symptoms, often by those of the third order, succeeding the repeated renewals of secondary symptoms. After an attack of this lengthened nature we seldom if ever observe a distinct eruptive or premonitory fever appear in this patient; and I may also add that the local syphilitic symptoms cease to present their characteristic signs as strongly marked as heretofore. Thus it would seem as if each eruptive fever, or rather each succeeding attack, brings the constitution into a weaker and weaker state. In the very advanced stages of the venereal disease we do not see those periodical changes; the constitution then appears unequal to any struggle, so that one continued and increasing state of debility, with slow fever and great emaciation, are conjoined to the local symptoms, while the latter

also are but little disposed to undergo any change, except, a slow and gradual deterioration: thus, I have sometimes, though rarely, seen a tubercular eruption, combined with pains of bones and joints, continuing during four or five years, and undergoing no material change, being at one time a little better, and at another a little worse." 10.

This description very nearly represents what we have ourselves observed. In the cases which we have witnessed, the following circumstances were more or less constantly present.

1. The primary sore has usually, after some weeks, healed, and has, in the majority of instances, left in its site an indurated and reddish-coloured cicatrix. In some instances this cicatrix has shewn a disposition to be covered with a slight crust or scab, the consequence of superficial excoriation and secretion. In other instances, the cicatrix has re-ulcerated once or oftener and at uncertain intervals. In women, it is not uncommon for a succession of sores to form. These, if on the labia, are usually succeeded by indurated cicatrices—if deeper the induration is much less perceptible. We would observe that, so far as our experience has gone, it is the rule for the primary sore to heal in men, and not to heal in women.* The reason *may* be, that men usually apply dressings of some sort to their sores, and that women commonly do not. The heat and moisture and lodgment of discharge are greater too in the latter than in the former.

2. From three weeks to three or four months after the distinct development of the primary sore, pyrexia and constitutional disturbance have ushered in either ulcerations of the throat, or papular, tubercular, or scaly eruptions on the skin; not unfrequently both ulcerated throat and eruptions. The usual characters of the ulceration of the throat have been—the tonsils and palatine arches tumid and red, and the ulceration itself yellowish and rather deep. The scaly eruptions (psoriasis) appear to us to have been the most frequent.

3. Irregular attacks of eruption, generally preceded by some pyrexia, and accompanied by pallor, and obvious ill-health, have continued for a variable time. Other symptoms may occur about this period. The patient may be affected with iritis—or with secondary ulcerations of the rectum—or with condylomata—or with venereal inflammation of the testis. It is generally about this period, that mercury is perforce resorted to, and here, consequently, we find it difficult to pursue the effects of the simple venereal poison.

4. Affections of the fibrous and osseous tissues are the next in order of occurrence. Not that the patient must necessarily have gone through the stages of sore throat and eruption previously to nodes. We have at this moment a gentleman under our care, who has node on the forehead, and below the great trochanter of the left femur, who had a sore which was pronounced by Mr. Lawrence to be venereal, who was prescribed mercury, but did not take it and who has had no intermediate symptom. But as a general rule, nodes are preceded by eruptions and by ulcerated throat.

It is usually in combination with disease of the periosteum and bones, or

* We are speaking of cases in which mercury has not been exhibited, and in which no active treatment has been pursued.

just prior to their appearance, or about the period at which they occur, that another order of affections of the skin and of the mucous membranes is developed. Phagedænic ulcerations invade each giving rise to frightful ravages in the throat, mouth, nose, and external parts of generation, as well as to rupia and spreading ulcers on the skin. Yet not only may nodes be unattended with these, but these may be uncombined with nodes. Both depend on a similar state of constitution, or are attended with it—a state of constitution eminently bad. It is true that such symptoms as we have alluded to, are generally seen in persons who have taken mercury to excess. But we have seen two instances, at least, in which they occurred independently of the use of mercury at all. The patients were both females, and singularly enough, neither was conscious of any primary infection. It was this which prevented the administration of mercury.

It is probable that these are not ordinary results of the non-mercurial treatment, for whilst we constantly see them where mercury has been abused, we very seldom witness them where it has never been administered. But it must be recollected, that long before such symptoms naturally occur, the nature of the complaint has usually been rendered evident, and mercury has been exhibited.

5. We have only seen one person die with venereal symptoms absolutely unopposed by mercury. That patient was a female, and one of those to whom we just allude. She died of phthisis. As this became developed, the nodes under which she laboured assumed less and less importance, and ultimately were scarcely thought of.

But it would seem that Dr. Colles has witnessed more numerous examples of a fatal termination to the malady. He remarks that:—

“When the disease has arrived at that advanced stage in which the general health has been broken down, and the local symptoms are so much changed as scarcely to be recognized as venereal, it is still a matter of uncertainty how long the patient (if not relieved by art) is to drag on a miserable existence, or in what manner a termination is to be put to all his sufferings. Many of its unfortunate victims are destroyed by what may be considered a continuation of the disease; but by far the greater number appear to be carried off by other complaints to which we may presume they were naturally disposed, or to which they were rendered liable by the very weakened and reduced state of their general health.

Among the former we may mention an ulceration of the throat, which, creeping downwards, at length seizes upon the larynx, and causes a destruction of a greater or lesser portion of this organ. The lungs quickly suffer from this affection of the larynx, and the patient dies, seemingly worn out by difficult respiration, and by severe cough, with profuse expectoration and hectic fever.

Others again are destroyed by the repeated exfoliation of the bones, frequently of those of the cranium, and sometimes of the long bones. Moreover, there are others who, having been forced by severe nocturnal pains to have recourse to opium, cannot afterwards be prevailed on to relinquish this medicine, but are rather disposed to increase the quantity of each dose. Although now almost free from the pains which had driven them to adopt this medicine in the first instance, such persons, we remark, cannot be induced to rise until late in the day; they have no appetite for breakfast, but will probably take some highly seasoned food for dinner; in the early part of the day they are quite torpid averse to every kind of exercise; in the afternoon they seem to revive, become more animated in the early part of the evening, and are unwilling to retire to

rest until a very late hour. One or two years may pass on in this manner with little apparent change; at length they sensibly decline in flesh, a diarrhoea supervenes, which is sometimes attended with sickness of stomach and vomiting, and by this they are ultimately carried off. It is remarkable that from the time these patients give themselves up to the inordinate use of opium their symptoms exhibit but slight traces of a venereal character.

Many others are carried off by diseases which have no other connexion with the original venereal affection except that by it, or rather by the treatment adopted for its cure, their system has been rendered more susceptible to the attacks of disease in general. Perhaps the greater number of such sink under attacks on the chest, such as pleuritis or pneumonia, terminating in serous effusion. Many of those who are strongly predisposed to phthisis fall victims to that disease: not a few are found to have the liver enormously enlarged, extending across the abdomen, and even below the umbilicus; this is followed by slow emaciation, and after some months by ascites and anasarca. Dysentery also at times seems to destroy some of those who have very long suffered under Syphilis, and as might be expected, ulceration of the intestines is discovered after death.

From this account then it is very evident that there is no certain period after the appearance of the primary disease at which death terminates such protracted cases of Syphilis. We may say that in general this event takes place between the second and fifth or sixth year." 13.

This is all which it is in Dr. Colles' power to communicate with respect to the natural history of syphilis. It must be owned that the amount of positive information is not great, and that much remains to be done before our acquaintance with the natural and uncomplicated consequences of the poison can be considered satisfactory. The great obstacle to our acquisition of such knowledge is the time which the disease takes to run its course, an obstacle so serious as to render direct experiments of comparatively little value. A person may be got to submit to inoculation with the venereal poison, and to suffer secondary symptoms to shew themselves: but no person can be procured who will voluntarily let the latter symptoms go on to the destruction of his health, and perhaps of his life, and no surgeon could be such a scoundrel as to make an experiment to which the patient is not a consenting party. Experiments then, so far as they have gone, have done no more than establish what was partially or wholly known before, the communicability of such or such a sore, and the occurrence of a few of the earlier secondary symptoms; nor do we look to such experiments as likely in any material degree to augment our stock of knowledge. The great means of doing that will be the close and unprejudiced study of the experiments which Nature herself conducts for us, and an accurate record of the observations which we make.

Before he concludes the chapter on the natural history of syphilis, Dr. Colles examines the question of the power of secondary symptoms to communicate the venereal disease. He cites two cases in which secondary venereal ulcers were the means of infecting other parties. It is well known that Mr. Hunter not only entertained a contrary opinion, but based much reasoning on the positive denial of the fact, another instance not only of Mr. Hunter having been wrong, but of his having decided a matter of fact by *a priori* and dogmatic speculation. The point may be considered established that secondary venereal ulcerations *are* capable of infecting those favour-

ably circumstanced for the reception of the disease; but the laws of the transmission of disease in this manner cannot be considered as determined.

The next subject on which Dr. Colles treats is the administration of mercury, that is, the principles which should regulate its use. But it would be more natural to ascertain first the characters and properties of the venereal sore, before we apply to it such a remedy as mercury. The only chapter in which primary sores are considered is the fourth, professedly devoted to chancre. As the work of Dr. Colles is avowedly desultory, we will not quarrel with his arrangement, but pursue our own plan, and proceed to the examination of his views on the primary sore.

II. ON CHANCRE.

We cannot compliment Dr. Colles on the possession, or, at all events on the display of much method in his descriptions. That logical mode of so arranging our ideas that others may with the greatest facility comprehend them, is not an art which he appears to exhibit. Yet it is an useful one notwithstanding. We will endeavour to throw together observations which are rather unconnected in the original.

1. "Although every surgeon must admit that Mr. Hunter's description of a chancre is correct, and drawn from nature, still I believe few will confine this term, or that of primary venereal sore, to those ulcers only which answer to his description. As the result of long, attentive, and anxious observation, I should say that primary venereal ulcers present an almost endless variety of character. I would define a primary venereal ulcer to be 'one which is remarkably slow in yielding to ordinary, mild, local treatment, but which is curable by mercury, and which, if not so cured, is likely to be followed in two or three months, by secondary symptoms, which again also are curable by mercury.' If then there be, as I affirm there is, an almost endless variety in chancres, how can we decide on the nature of primary ulcers, so as to pronounce some to be syphilitic, and others to be mere common sores, or simple excoriations? I reply that we are to be guided in our decision, by observing first, that many of these suspicious ulcerations cannot be referred to any class of common ulcers, as they strikingly differ from them; and, secondly, by attending to the course which these take, when not interfered with by any stimulant or caustic application, and when treated only with some mild ointment or cold water. If under these circumstances we find that after eight or ten days such ulcers shew no disposition to heal, and if, at the same time there be a total absence of any cause, such as defect in the general health, to account for this obstinate condition of the local disease, we may then pronounce them to be syphilitic. But I repeat that the local applications must have been of the mildest kind, for almost any primary venereal ulcer may be made to heal by the use of stimulating applications, applied even for so short a time as one or two days." 76.

It will be observed that Dr. Colles abandons Mr. Hunter's hypothetical attempt, to erect one sore, and that not *now* the most common one, into the true type and symbol of syphilis. In this, all judicious surgeons will agree with him, and the old notions connected with the Hunterian chancre are virtually exploded.

But we cannot agree with Dr. Colles that venereal sores present an almost endless variety. In their minor features no doubt they do so, but in their leading characters they are not too diversified, to refuse under a mode-

rate analysis, to be reduced to a few leading forms. If pressed for an enumeration of them we would name the following:—

1. The Common Venereal Sore.
2. The Indurated Sore.
3. The Phagedænic Sore.
4. The Multifarious Sore.
5. The Excoriation Sore.

It is probable that these are not essential varieties quoad the nature of the poison, but rather, accidental modes of action, determined by numerous circumstances. A common sore, for instance, may become indurated or it may assume the phagedænic character. But, still, for practical purposes, it is useful to give a substantive character to ulcers which present very marked features, and require very marked varieties of treatment. It is foreign to our purpose to go into this subject at present, but we may observe that a variety of considerations hang by it, and that no simple view of the phenomena of venereal sores will either explain them, or be consistent with the truth.

It is obvious that Dr. Colles' definition of venereal sores is objectionable in many points of view. This is so obvious that we shall not insist on it, particularly as we care little about such things as definitions. But his directions for distinguishing venereal sores are of more practical consequence. The great criterion is their indisposition to heal. But that is a criterion which requires time, valuable time both to the patient and the surgeon. It is very well to wait for a week or a fortnight in a hospital, but private patients cannot or will not submit to such an ordeal, and the surgeon who should wish them generally to submit to it would probably find them evince a marked preference for some more decided rival. The fact is that the only mode of distinguishing venereal sores is first to become acquainted with their leading characters. Such knowledge can neither be acquired nor can it be conveyed by words. It is useless to attempt either. All that can be done by description is this—to classify venereal sores in the most natural manner—to describe as accurately as possible their respective characters—and finally to give some general hints which may assist in forming a diagnosis that essentially rests on a precise and a practical acquaintance with the disease. It is astonishing how quickly a surgeon who has that practical knowledge may pronounce, and accurately too, on the character of the vast majority of sores presented to him, at a very early stage of their existence.

We agree to a great extent with Dr. Colles in the following remarks:—

“It often happens that young men affected with primary sores, will first treat them for one or two days with stimulant washes, and then apply to a surgeon; he directs the mildest applications, and finding the ulcers to heal under this treatment without any hardness remaining, concludes that they were not venereal; the appearance of secondary symptoms, however, in a few weeks afterwards, proves the error of that opinion. I have known a few such cases, in which the surgeon has felt so confident in this opinion, that he has allowed the patient to marry in a short time after the healing of the sores. I need not attempt to describe the state of his feelings when called on to treat the wife for primary venereal sores!! I am therefore anxious to impress this as a very important rule, not to pronounce any ulcer on the genitals, as of an innocuous nature which may have healed under the mildest applications, if at any time, even during the short space of one or two days, it have been treated with stimulant applications.” 76.

The early use of caustic has been recommended by some surgeons, especially by Mr. Wallace. We think it injudicious practice upon two accounts:—first, it interferes with the natural progress of the sore, and consequently with one important means of regulating our exhibition of mercury; secondly, it is apt to occasion much irritation, and the undesirable consequences which may ensue from it. Caustic at a later period is open neither to the one objection nor the other.

2. "I deem it right," says Dr. Colles, "here to notice an appearance in chancres healed by local means only, which we occasionally meet with in cases where mercury had been injudiciously employed,—an appearance which I have never, except in one instance, seen. The appearance I allude to is a remarkably hard lump, as large as a filbert, situated on the prepuce in the site of the original chancre, the skin which covers it is of a peculiar purple colour. In one instance, that of a young gentleman, whose chancre had been healed for three or four weeks, this appearance was attended with most alarming symptoms, viz. extreme emaciation, thirst, loss of appetite, and profuse night sweats. The suddenness with which he had been reduced to this state, from a tolerably full habit of body, and from apparently excellent health, excited in my mind great apprehensions for his safety, especially as some of his family had died of hæmoptysis succeeded by phthisis. I never saw any case in which the venereal virus acted in a manner so like to what we might fancy should be the effect of a slow poison on the system. Yet by means of a mercurial course gradually raised from very small doses, and continued for a longer period than usual, the hardness and discoloration were removed, and he was soon restored to good health, which he still enjoys. This case occurred many years since; at the time when the non-mercurial treatment was first introduced into Dublin. In all the other instances of this large purple tumor, where it has formed after the healing of a chancre by local means only, I have seen secondary symptoms follow in the same time, and pursue much the same course, as when these have succeeded to chancres which have been only imperfectly cured by the injudicious administration of mercury." 92.

This is an allusion, but it cannot be looked on as much more, to a subject of much practical importance, the condition of the cicatrix of a venereal sore. We are too much crippled for space at present to consider it at large, and we merely quote this passage, which, so far as it goes, deserves attention.

Dr. Colles alludes to those varieties of venereal sore, which depend on the peculiar structure of the part where they are situated. No doubt the nature of the parts exerts an influence on the characters of the sore, and this is one element in the causes of the diversity of forms which sores assume. But we are not sure that it is so important an element as Dr. Colles' remarks would lead the reader to suppose. We will allow Dr. Colles to speak for himself.

3. It is scarcely necessary, he observes, to say that the quantity of hardness is much less in chancres situated on the glans than in those on the prepuce; but still a degree of hardness sufficient to guide us in the treatment attends even the former.

No doubt some induration attends the venereal sore on the glans. But Dr. Colles takes no notice of several peculiarities attending such a sore. In the first place, granulations are generally tardy, and such a sore not unfrequently assumes the phagedænic character. In the second place, such a sore scarcely ever fungates, the absence of loose cellular tissues beneath

the compact chorion, interfering, we presume, with the ready formation of loose granulations. In the third place, the cicatrix is generally depressed, rather than elevated, and the loss of substance is seldom properly repaired. Even after the lapse of years a hollow is seen to mark where the sore was.

"There is a form of venereal chancre on the edge of the prepuce, of which I do not recollect ever to have read any description. The account we receive from the patient is, that he thinks he tore himself in the act of connexion; we see that the lacerated part shows no disposition to heal, but is not painful or swollen, and appears in the form of a fissure. When the prepuce is partly retracted, this fissure appears as if it had been divided by a long incision; the edges are hard and deep, not swollen or inflamed, and yielding scarcely any discharge; it is not at all painful, unless when an attempt be made to retract the prepuce. This is certainly a primary venereal ulcer, its peculiar characters may probably depend on the infection being ingrafted on the torn surface; it requires the use of mercury to the same extent as does the circular Hunterian chancre: nor does it need any peculiar local treatment." 93.

This form of sore is very common in the London Lock Hospital. It not unfrequently coincides with gonorrhœa—almost always occurs in persons who have a long prepuce and a tendency to natural phimosis—but, so far as we have seen, is not necessarily preceded by excoriation. It is, undoubtedly, a form of venereal ulceration, and we have seen it followed by ulcerated throat, and by papular, tubercular, and scaly eruptions. Phimosis is not uncommonly occasioned by it.

"We sometimes see the edge of the prepuce beset with five or six circular ulcers; these, if left to themselves, will first granulate, then become fungous, and finally will heal spontaneously. The form as well as the slow and indolent character of these ulcers might dispose us to conceive that they were syphilitic; the appearance, however, of several of these at once, along the margin of the prepuce, and their being destitute of any hardness, will serve as a criterion whereby we may make the distinction. These ulcers may always be cured by suitable local treatment alone; I have never seen them take an unfavourable turn. Sometimes there may also be present in conjunction with these, others of a true venereal character, and for which mercury must be administered; we shall then have an opportunity of remarking that this medicine exerts no influence on the ulcers at the extremity of the prepuce. Sometimes this circle of ulcers is accompanied by a single one of the same character far within the prepuce." 94.

We feel some hesitation in coinciding with Dr. Colles in his opinions on this form of ulceration. The multifarious, fungating ulcers on the prepuce, are, so far as our experience goes, venereal. Dr. Colles gives no marks by which we may suppose that they are not so, save the fallacious one, that they will *finally* heal spontaneously. They will do so finally, no doubt, and so will most of the true venereal ulcers. But we are sure that in the majority of cases they will take a very long time to heal, and that if allowed to do so spontaneously, secondary symptoms will in certain number follow. The fact is, that this form of venereal ulceration is rather a peculiar one, and we have made it the subject of a distinct essay, in which we have described its characters and progress, pointed out what seems to us the most successful mode of treatment, and alluded to some of its natural consequences.

Dr. Colles remarks that the non-veneréal are sometimes mixed with true veneréal ulcers, but he gives us no criteria by which we may distinguish them, and it is singular that two forms of sore, one veneréal and the other not so, should be running abreast, in so friendly a manner. One would imagine that the discharge of the veneréal sore would at once contaminate the non-veneréal one. We fear that there is on this, as well as on other occasions, rather too much looseness in Dr. Colles' descriptions.

6. "When a chancre is seated close to either side of the frænum, we find it invariably happens that the ulceration passes through this process of integument, at first making an opening through it, and in a few instances the ulcer has healed, leaving this hole: but in the majority of cases the ulceration goes on until it has divided the frænum entirely, then each side of the ulcer heals separately, the part on the glans showing a tendency to advance slowly, making a superficial groove in the anterior part of the glans. The only direction to attend to in the management of these chancres, is to cut through the frænum as soon as the ulcer has once perforated it; for we shall generally find when this has not been submitted to, that the sore will not assume the granulating state, until the ulceration has completely divided the frænum. The posterior part of the ulcer having generally the larger part of the frænum, will require repeated touches of caustic to prevent it from healing with a large knob, while the anterior part will be benefited by the black wash or some other gentle stimulant. Sometimes the frænum (having been divided by the surgeon or by ulceration) presents a furrow, showing that the part is composed of two layers of cuticle; this may be a little more tedious in healing." 94.

We cannot look on this as an adequate account of the perforating ulcer of the frænum, a very marked variety of the common veneréal sore. The ulcer in question runs a very peculiar course, always, or almost always, perforates the frænum, and destroys the portion of it which is rendered free by the perforation, and not very unfrequently assumes the phagedænic character. We have seen in private practice, during these last six months; five cases of it, and of those, two had taken on the phagedænic aspect, and creeping or "herpetic" character. It would occupy us far too long, for our space is now exhausted, to go into the history and treatment of this sore. Suffice it to say that it requires the cautious and the long-continued use of mercury. In one instance in which mercury was imperfectly administered, we saw suppurating bubo in each groin, ulcerated (yellow) tonsils, and tubercular eruption follow. The case was that of a medical student.

7. "A chancre sometimes, though rarely, is seated at the very orifice of the urethra; in this situation it is always slow in going through the different stages preparatory to healing, and it too often assumes an eating disposition, passing all around the orifice: there is one very serious ill consequence, which always results from this namely, that in some time, perhaps in one or two years, the patient will suffer severely from symptoms of stricture. In treating such a case we should use every effort to prevent the extension of the ulceration to the entire circle of the orifice, for unless it entirely encircle the orifice, contraction will not follow; this can with certainty be accomplished by touching the ulcer as soon as it begins to extend, with the colourless muriate of antimony, or with nitric acid; these applications are no doubt severe, but the evil they avert is one of great magnitude; for I will venture to assert that of all forms of stricture, this is one most apt to recur; indeed it does not in any instance admit of a cure by the ordinary treatment of strictures.

"I am happy to say that I have lately discovered a mode of treating this

stricture which has proved eminently successful in the few cases in which I adopted it. This plan of treatment consists in this simple operation.—Having detached the skin from the end of the urethra, to which it is generally intimately adherent, I divide the urethra below, to the length or more than half an inch. I raise the mucous membrane from each lip of the incision, then cut away a portion of the beard corpus spongiosum, to such an extent as will allow the raised mucous membrane to cover the cut edge. I stitch down this membrane upon the corpus spongiosum; and thus having covered each lip of the wound by mucous membrane, I have effectually guarded against the possibility of re-union of the lips of the wound, or subsequent contraction of the opening. The opening of the urethra thus produced, is of course of a size larger than natural."

This is a valuable suggestion, and we shall adopt it in the first case, of an appropriate description, which presents itself. As Dr. Colles observes, the stricture produced by ulceration of the orifice of the urethra is of a very troublesome description, but it does not always succeed such ulceration. We have at this time a gentleman under our care, in whom such ulceration has healed without any tendency to constriction, and in another gentleman, labouring under stricture of the membranous part of the urethra, a venereal ulcer at its orifice has enlarged *that* materially.

8. "Of late years, notwithstanding what Mr. Hunter asserts to the contrary, I am confident that I have seen cases of chancre seated altogether within the urethra; such cases have been frequently mistaken for mild gonorrhœa, and have for weeks together been treated as such; in some of these cases the surgeon has not been apprized of his mistake until the ulceration has actually laid open the fore-part of the urethra, or has extended forwards to its orifice, so as to become visible. A very little attention will enable us to discover the real nature of this case, even in its earliest stages; for we can externally feel a hardness in that spot of the urethra where the chancre is seated, and the symptoms of gonorrhœa are so slight, that this alone should excite our suspicion, and induce us to search for a chancre in the urethra." 96.

Nothing can be more true than the preceding observations, and nothing can be more corroborative of what we have asserted respecting Mr. Hunter's work on the venereal. It did not agree with his speculative views to admit of a venereal ulcer of the urethral mucous membrane, and consequently he denied its existence; in other words, he decided, as he often does, a question of fact not by reference to facts, but by theory—the most illogical and unphilosophical method of argument possible. It hardly, we imagine, requires additional evidence to prove that Mr. Hunter's mind, much as it has been lauded, was not imbued with the spirit of inductive reasoning, for such a mental vice as we have mentioned, is incompatible with its very principles

We have ourselves, within the last four years, seen three distinct cases of venereal ulcer within the urethra. Of these, two were in the Lock Hospital, and were out-patients of our own, and one was a private patient. In the first case, we mistook the disease for gonorrhœa, until the occurrence of ulcerated tonsils, and syphilitic psoriasis, drew our attention more particularly to it, and led us to make a closer examination of the urethra. In the other two cases, the same mistake had been made by other surgeons—in the private patient by a very eminent one. Those two patients had secondary symptoms too; one laboured under stains and desquamating papulæ, the other under pityriasis with psoriasis, and ulceration of the tonsils.

Here we pause. In our next number we shall pursue the subject, and we hope to offer some observations which may be of service to such of our readers as have not enjoyed sufficient opportunities of studying this complicated malady.

RECENT WORKS ON THE PRACTICE OF MEDICINE.

- I. PRINCIPLES OF THE THEORY AND PRACTICE OF MEDICINE; including a Third Edition of the Author's Work upon Diagnosis. By MARSHALL HALL, M.D. F.R.S.L., & E. &c. &c. &c. Octavo, pp. 503. London, 1837.
- II. ELEMENTS OF THE PRACTICE OF PHYSIC; presenting a View of the present State of Special Pathology and Therapeutics. By DAVID CRAIGIE, M.D. F.R.S. E., &c. &c. &c. Octavo, pp. 952.

THE objects of the two Authors, whose works we are now to notice, varying in comprehension—Dr. Hall attempting only “to lay down the First Principles of the Theory and Practice of Medicine for the *Medical Student*, and for the *Young Practitioner*,” and that too in so condensed a form, as to render the acknowledgment necessary that he “may have omitted some things which had been better inserted”—and Dr. Craigie designing his present work “to embody, in one uniform, harmonious, and comprehensive system, the whole of the theoretical principles, and the practical applications of which the art of preventing and curing diseases now consists,” (*preface*, p. vi.)—will at once account for the difference of size in the two compositions. Dr. Hall contrives to condense his “Principles” into a moderate sized volume of only 503 pages, while Dr. Craigie dilates his Elements into a thick and heavy octavo of 952 closely printed pages—with the promise of a second volume, that we may bear in mind that half is not yet told, of all the able author has to tell about the present state of Special Pathology and Therapeutics.

“I wish not to write an unnecessary sentence, or even an unnecessary word,” says Dr. Hall, and accordingly, without other note of preparation than the simple announcement, that “the doctrine of inflammation is the most important in the theory of medicine and surgery,” *Part 1*, p. 3, he enters at once, and somewhat abruptly, upon his subject, with a chapter “on Inflammation,” in the very second paragraph of which, however, he pauses to soliloquize upon the “wonderful, he had almost called them sublime, results of inflammation,” p. 3. But Dr. Craigie, after an explanatory preface of ten pages—ushers in the body of his work by a most elaborate introduction of thirty pages more—in which, after having repeated the definitions of medicine previously received, he adds to them another, viz. his own, which makes medicine “the art of distinguishing, preventing, and curing diseases.”—*Introduction*, p. 1.

In like manner, he brings forward the usual definitions of disease only to

reject them, and substitutes instead of them, one which makes it "to consist in that change in the properties or structure of any tissue or organ, which renders it unfit for the performance of its actions or functions according to the laws of the healthy frame"—p. 3. "Definitions are dangerous things," and it would not be difficult to shew that a few more such definitions as the above might prove exceedingly dangerous to the reputation for them of even a practised author like Dr. Craigie. The danger to both author and reader, from a vague or inaccurate, or too contracted definition, is, that the one will be always using, and the other understanding terms in another, a more precise, and a more comprehensive sense, than the defined one. And the especial danger of all reformers, in medicine as well as in politics, is that of overlooking the difference between the detection of errors and the development of truth. Not that we would charge Dr. Craigie with the common vice of finding fault, or deny him the rare merit of developing truth. The introduction to his "Elements" is a very sensible and clever exposé of his views of medicine generally, but the value of it is somewhat lessened by the involved and complicated style in which he writes, requiring the closest attention in the reader, and sometimes calling for no little exercise of thought to get at the meaning of the writer. In it, he explains what is to be understood by etiology, nosogeny, nosology, semeiography or nosography, pathology and therapeutics—the divisions of which medicine is considered by him to consist—p. 30. We shall follow him rapidly through each.

1. *ETIOLOGY, or the Doctrine of Causes.* "The formation of diseases is understood to depend on the presence or previous operation of certain circumstances which are classed together under the general name of causes. The department which undertakes to investigate the nature and operation of these agents, is denominated *ETIOLOGY*."—P. 13. The usual distinction of causes into remote and proximate is admitted by Dr. C., who asserts, however, that "of these two kinds of causes, definitions in general too abstract and metaphysical have been given; and pathological authors have been too solicitous in their desire to avoid assigning undue influence to either class, to designate them by characters so general, that it is difficult to attach to them any definite idea."—P. 13. In other words, the definitions of those writers who preceded Dr. Craigie, have been so constructed as to define nothing. Of course we have a right to expect something better from himself—and, accordingly, "all those circumstances which are observed to produce in animal bodies sickliness or morbid action, are comprehended under the general name of remote causes."—P. 14. A wide enough definition certainly, as every one must admit. "These (remote causes) are distinguished into predisposing causes, or those which induce a disposition to disease, and exciting or occasional causes, or those which, when the disposition is already established, rouse it to action, and give rise to actual disease."—P. 14. The former include what are denominated *internal* causes, and the diatheses morbosæ of the schools. The latter comprise "all those circumstances and accidents, the operation of which upon the frame is followed more or less directly by the establishment of definite morbid action." P. 18. "Every occasional or external cause may, by habitual, continued, or repeated operation, give rise to effects which constitute morbid predisposition, and hence may become at once an occasional, exciting, or external

cause, and a predisposing or internal cause. The best examples of this combination are presented by the effects of terrestrial or miasmatic emanations of marshy, insalubrious, and malarial districts—the effects of residence in tropical and hot climates where the solar heat is intense, and the effects of the habitual use of spirituous, vinous, and fermented liquors.”—P. 19. The term “proximate cause of disease,” Dr. C. thinks, it would be best to banish entirely from the usage of physicians, and to substitute in its place the term *pathological cause*, or simply *pathological character* of the disease, which would then have a definite signification.” Is there then no proximate cause of disease at all, in the true acceptation of the term? Or, is every cause of disease to be resolved into the one general idea of remote causes? If causes are divisible into remote and proximate, the change of terms by the banishment of one and the substitution of another, does not render the signification one whit less vague and erroneous. But the Doctor has himself fallen into the very common mistake, which it is exceedingly difficult to avoid, that of applying our own sense to the words of others—and then reasoning against the use of words by their authors, as though their words necessarily meant what we understand by them. Thus, he gets rid of the old idea attached to the term disease, namely, derangement of function: attaches to it the more comprehensive idea of organic lesion as well as functional derangement—and then using the word in his own sense, sets aside another term altogether because of its inapplicability to disease as understood by him, although more applicable to disease in the meaning of the word as used by those who invented the term now to be got rid of—and in his haste to do this, has scarcely time to invent a less objectionable one—for surely “pathological cause” is as objectionable as “proximate cause”—when applied to disease itself, and not to a cause of disease at all—and although the alternative phrase “pathological character of the disease” may be better in speaking of the disease as existing, it is altogether useless in describing the cause of that disease before it actually exists. We suspect that Dr. Craigie gains little, and are quite sure that the profession will be no greater gainers, by his attempted improvements in medical definition. The students, by whom they are likely to be adopted, will have few clearer notions of disease and its causes—and the practitioners by whom his work may be consulted, will be always in peril of confounding things old and new. We say this, in no spirit of harsh or invidious criticism—for Dr. Craigie’s volume is a very valuable one, and can well afford to submit its excrescences to the pruning knife.

3. **NOSOGENY.**—or the formation of Diseases, *Nóσος Γενος*. “The only legitimate mode of forming a correct theory of the formation of diseases, is to study the operation of remote causes generally, to observe their effects on the human body and its organs, and to endeavour to trace the connexion between the operation of these causes and the morbid changes induced in the course of various diseases.”—P. 21.

3. **NOSOLOGY.** “With the view of communicating just ideas of the resemblances and affinities, as well as the differences of disease, and exhibiting correct views of their mutual relations, it is usual to distribute diseases in a certain method or order.”—P. 22.

"The general principle of nosological distinction is to arrange diseases into certain similar tribes or assemblages, according to their resemblances and their dissimilitudes, in imitation of the arrangements of natural history, &c. In distributing diseases in this manner, it is necessary to distinguish each Class, Order, Family, Genus, and Species, by a certain number of characters, by which it may be known from those which most closely resemble it, and to designate each, thus distinguished, by an appropriate character and appellation. Nosology, may, therefore, be distinguished into two divisions; *Nosotaxy*, or the distribution and classification of diseases, and *Nosonomy*, or the nomenclature of diseases."—p. 23.

"In the following work I propose to adopt, as the basis of classic distinction the pathological nature of the different morbid processes, and to subdivide these as nearly as may be, according to the anatomical arrangement of the textures and organs of the animal body. On this principle I shall consider in the following order Fevers, Inflammatory Diseases, Hemorrhagic Diseases, Dropsical Disorders Disorders affecting the properties of many organs at once, not always in a very intelligible manner, Mental Disorders, and lastly, Organic Changes, not referrible to either of these heads."—p. 24.

This department of medicine originated with Sydenham, whose plan was first carried into effect by Sauvages, and improved upon by Cullen and other nosologists, none of whom are deemed worthy by Dr. Craigie of being mentioned with any thing like so large a meed of praise as Dr. Cullen. "While Sauvages has the undoubted merit of first sketching the plan, and exhibiting the arrangement in a degree of wonderful perfection, considering that it was a first attempt, it is impossible to deny that Cullen has effected more important and real improvements, than all the other nosologists who have attempted it; and scarcely those of Young, Pinel, and Mason Good, can be regarded in any other light than as slight and partial improvements on the method and distinctions of Cullen."—p. 23. An opinion from which we must take the liberty of dissenting—Cullen's nosological arrangement is as immeasurably inferior to Mason Good's, whether in method or completeness—as his descriptions of disease are incomparably preferable to those of that lamented physician. The proof is, that Cullen's Nosology is passing out of the hands of the present generation, and will remain only in their heads among the things that were, but are not—whereas, his descriptions of disease, are still, in most cases, the best that can be given. Mason Good's descriptions of disease will pass away, the erudition of that author serving sadly to adulterate the results of his own observation—but, in as much as the basis of his nosological arrangement is more natural than Cullen's, and less arbitrary, it will remain the text book of our medical classes, when that of Cullen is only to be found on the shelves of the learned.

4. NOSOGRAPH OR SEMEIOGRAPHY, or the Department of Practical Medicine which describes diseases according to their symptoms—these being divided into *essential*, *pathognomic*, or *diagnostic*;—*general*, and *accessory*, but *not necessary*;—and *secondary* or *supervening*, the *symptomata symptomatum* and *symptomata supervenientia* of authors. "It is of the utmost importance for the physician to observe carefully and distinguish accurately these different classes of symptoms; and as this cannot be accomplished

without very just and accurate ideas on pathology, general and special, it becomes impossible in practical application to disjoin the knowledge of morbid processes from those (that) of their characteristic symptoms; and the whole object of the study of symptoms is to connect them with their appropriate morbid or pathological causes, &c. If we could always repose confidence in the accuracy of our observation, and in the constancy of the relations established between these diagnostic signs and the pathological state of the organs, that part of medicine which consists in recognizing and distinguishing diseases would then be a perfect art. From this high degree of perfection it is still remote. Though pathological researches has assuredly succeeded in diminishing much the number of uncertainties and obscurities between symptoms and their causes, the physician has still daily occasion to remark the fallaciousness of some of his most usual diagnostic means; and the progress of various diseases affords examples of complication and obscurity, which makes him feel forcibly the conjectural nature of his art, until symptoms so unequivocal have taken place, that diagnosis is no longer practically useful."—p. 12.

In our notice of Dr. Hall's work, we shall have shortly to recur to this department of medicine. In the meanwhile we pass on to

5. **PATHOLOGY**, or the science which enables "the Practitioner, in any given case or set of cases of disease," "to form from the attentive consideration of the external signs and symptoms, an idea as accurate as possible, of the nature and extent of the morbid action or actions in the tissues and organs of the living body" is rightly judged to be "a science of great extent, and embracing several subdivisions." These are *Pathological Physiology*, or the assemblage of facts obtained by the study and comparison of the actions and functions observable in the healthy body and their variations in the different morbid states of particular organs, or of the system at large. *Pathological Chemistry*, which, from the knowledge possessed of "the natural conditions and chemical constitution of the different fluids of the animal body," and "of the changes which take place during disease," enables the physician to determine the nature of those changes. And *Pathological Anatomy*, a third, species of information, "derived from the careful inspection of the organs of the bodies of those cut off by disease," "regarding the effects, and occasionally regarding the nature of the morbid action."—pp. 5 and 6.

"Pathology and Symptomatology are so closely and necessarily allied, that neither can properly exist alone, or be cultivated apart. Every fact and principle of pathology derives its value from the explanation which it affords of any symptoms or set of symptoms; and it is totally impossible to establish a rational symptomatology without a collection of such pathological facts and principles." Hence "the great object of pathological inquiry is, to enable the physician to distinguish between essential or pathognomonic, and general, or common, or accessory symptoms; and above all, to determine from the presence of each, the stage, degree, intensity, and effect of the morbid process, with the view to treatment."—pp. 12-13.

6. **THERAPEUTICS**, comprehending two great divisions—one, Prophylactics, relating to the means of maintaining health and preventing disease; the

other, Therapeutics, properly so called. Each embracing two subdivisions: viz:—

The Prophylactic or Preventive Department. .	{	a. Hygiene.
		b. Medical Police.
The Therapeutic or Curative Department. .	{	a. General Therapeutics
		b. Special Therapeutics.

HYGIENE “relating to the general rules established by Physiology. Etiology and Pathology for the preservation of health.” Medical Police referring to “those measures either of precaution, prevention, or rectification, which are adopted to counteract the operation of deleterious principles or morbid agents generally on the human frame.”—p. 24-5.

General Therapeutics, including “the consideration of the general principles on which the removal of morbid action is to be effected.” *Special Therapeutics*, “the mode of applying these general principles to the treatment of individual diseases.”—p. 25.

“If in all instances, the pathological cause or causes were perfectly known, and if at the same time we were perfectly acquainted with agents which could operate on these causes directly and efficiently, and remove them entirely, the principles of therapeutics would rest on a sure and immutable foundation, the curative indications would be simply to remove the pathological cause or causes of the disease, and the healing art would be reduced to great certainty and precision. This perfection, however, pathology has not yet acquired; and the principal lesson which it has taught, is that what is named *cure*, consists not in the positive removal or extinction of a morbid process by direct means, but in the gradual subsidence of the morbid action under a favourable combination of circumstances, and the restoration of the action of health. The cure of disease by direct means is indeed very rarely practicable; and though pathological causes are known, our means do not operate on them; while in the diseases in which the causes are unknown, curative indications must be derived from symptoms. When healthy properties are impaired, we know no agent by which they can be directly restored; when vital action is perverted or deranged, we possess no means of immediately rectifying it, but must be satisfied with using those means under which it is most likely to rectify itself; and when morbid processes are established, they pursue a certain course, and tend to a particular termination, and all that the physician can do, is to moderate and restrain the violence of the process so much, as to prevent it from injuring important and essential organs.”—p. 26.

In our notice of Dr. Hall's work we shall be excused from any very close analysis, by the difficulty, almost insuperable, of condensing what has been already condensed to the utmost of the author's ability—and by his own acknowledged inaccuracy of arrangement, arising as a necessary consequence out of his indifference to the severe scrutiny of the Nosologist, for the sake of being “of use to the young clinical student, or practitioner.”—p. 240.

The theory of medicine occupies the first part of the volume, and is taken up with several instructive chapters,—1st. On inflammation, “the most important doctrine in the Theory of Medicine.”—2nd. On Tubercle, “after Inflammation the most important of the subjects comprised in the Theory of

Medicine—or Pathology.”—p. 42. 3rd. On Melanoses, a disease, “of little importance to the practitioner,” for three reasons—it is rare of occurrence, rarely capable of detection, and when detected suggests no indications for the treatment; and although it has recently greatly engrossed the attention of pathologists, Dr. Hall very wisely devotes to it “precisely,” and only “that degree of attention which it appears to deserve.”—p. 54. 4th. On Encephalosis and Scirrhus. 5th. On Fever, “scarcely less important than the subject of Inflammation,”—p. 60. 6th. On Irritation, as “a subject of great practical importance, but hitherto almost neglected by the profession,” 65, and 7th. On Exhaustion, as “another subject almost overlooked by the profession,” p. 68. 8th. On Sinking. 9th. On Blood-letting. 10th. On Mercury, and 11th. On the Tartrate of Antimony.

We shall begin at the beginning, with the all-important subject of Inflammation, the *Causes, Signs, Changes, Symptoms, Nature, Modifications, Influence on the System, Diffusion, and Treatment of which*, with the distinctions between it and Congestion, and between it and Irritation, are separately considered by Dr. Hall, and, for the most part, satisfactorily although summarily disposed of.

1. THE CAUSES OF INFLAMMATION are divisible, according to Dr. Craigie, into two orders, the *Predisponent*, including “a plethoric habit—actually existing, or those circumstances which, either separately or jointly induce a plethoric habit;” “indolent or inactive habits;” “*infancy, youth, and manhood; male sex*, and occasionally sexual differences; the Winter or Spring season, and occasionally a peculiar state of the atmosphere:”—*Craigie*, p. 403.—and, the *exciting*, to which last “may be referred all those circumstances which, either applied to, or operating upon the human body, more or less directly, may give rise to a distinct inflammatory attack. Of this kind are extreme cold or intense heat; the application of cold, either in the form of cold air, cold water, or cold drink to the body previously heated; excessive corporeal exertion, so as to induce much heat and sweating, and thereby a temporary febrile state”—“intense and long continued intellectual exertion, or intense mental emotions often accompanied with loss of sleep; articles of food or drink which derange the action of the stomach and bowels; mechanical injuries, as falls, contusions, wrenches; incised, lacerated, or punctured wounds; fractures, simple and compound; dislocations, simple and compound; scalds, burns, and scorchings; various injuries effected by chemical agents, &c.; in short, any cause or causes which produce on the living tissues a strong, intense, or injurious impression.”—*Craigie*, p. 404.

Nothing can be looser than the above; Dr. Hall's division into The *Mechanical*, including incision, laceration, contusion, &c.—The *Chemical*, such as heat, cold, electricity, and the operation of acids, alkalies, &c.—The *Vital*, and the *Constitutional*, is greatly to be preferred.

“The principal examples of *internal* inflammation from the operation of chemical causes, are those which have arisen from the attempt to swallow hot water, or acrid fluids. Some part of these fluids may reach the stomach and produce inflammation in that organ; but the principal result is an affection (α dema) of the rima glottidis, with symptoms *resembling* those of croup, I first,” says the last author “called the attention of the profession to the

accident as it occurs in children from drinking out of the spout of the tea-kettle, or tea-pot"—as uncommon a practice, we trust, as it is an uncleanly one. "A similar result followed, in one sad case, the administration of a liniment by mistake for a draught. The physician should be alive to the possibility of such an event, for the *cause* of the affection *might* be concealed by a guilty nurse."—*Hall*, p. 4.

The vital causes of inflammation, appear to be the innate energies of the animal frame, for the preservation and maintenance of life and health in the natural state of the creature, and for the reparation of injuries, when affected by mechanical violence.

The constitutional causes operate in producing furunculi, paronychiæ, erysipelas, gout, &c. Internal inflammation from exposure to cold and wet;—from Rubeola, &c.; and the effects of the Ergot of Rye; are alike produced through the medium of the nervous and vascular, or general system.

Dr. Craigie suspects that "what has been denominated the *Phlogistic Diathesis* is in many instances the general disturbance occasioned by chronic inflammations of a lung or liver, disease of the heart, or disease of the kidney."—p. 16. According to him, also, we have no very distinct proof of the existence of this diathesis, and, of course, as little satisfactory information respecting its exact nature.

II. THE SIGNS OF INFLAMMATION, and THE SYMPTOMS IN INFLAMMATION, occupy distinct sections in Dr. Hall's arrangement, the former being referred, to those localities of external, visible, and tangible inflammation, the latter embracing "the affections of the *general* systems, as distinguished from those of the *part* immediately subjected to the disease. When *external*, inflammation displays the well-known signs of *redness, tumor, augmented temperature and augmented sensibility*, the *rubor, tumor, calor, dolor*, of Celsus and the old authors, when *internal*, it requires to manifest itself by symptoms. The *signs* are local, and confined to the part affected—the *symptoms*, general, and more or less affecting the whole constitution.

In those parts of the body only, which are accessible to sensible examination can three of the four events before enumerated be observed or recognized. "The sensations of the patient will announce the pain of which such parts are the seat; but it is impossible to tell whether they are red and swelled or not; and if their temperature is greater than usual, we have no means of knowing either from the sensations of the patient, or from our own observation, or by means of instruments."—*Craigie*, p. 381.

The *redness* in inflammation depends upon the augmented quantity of blood, of the red particles especially; this, upon the increased size of the minute arteries and veins, and of the true capillaries. It "is seen only in the skin, or in some of those points of the mucous surfaces which are accessible to inspection." *Craigie*, p. 381. It varies in degree, being either bright or dull, and is sometimes shaded with brown and purple, this last approaching to lividity; in permanence, sometimes disappearing upon pressure, at others being unaffected by it; and in configuration, being in one case diffused, in another circumscribed.

"Accompanying the redness, and not easily separable from it, is the lustre of an inflamed part." This "may be either diminished and destroyed, or much increased in intensity. In most cutaneous inflammations, in which

the redness is bounded by a distinct margin, the lustre is diminished, and the surface dull. In others, however, especially, which attack the lower extremities, as in the *erythema lare* of Dr. Willan, the lustre is augmented, and the whole inflamed surface is smooth and shining. This state of the skin generally indicates great dryness, and much tension."—*Craigie*, p. 382.

The *sense of heat* is much greater than the actual increase of heat itself—arising from the *greater sensibility* of the part, as this latter is probably caused by the greater flow of blood, and augmented still further under the influence of the systole of the left ventricle.

Inflammatory pain increases in consequence of pressure, and may thereby be distinguished from spasmodic pains, and the pains arising from simple distention: "—if the part to which the pain is referred be remote from examination, or cannot be pressed in consequence of being covered by bony or incompressible walls, any motion which has the same effect will increase the pain. Hence the utility of making the patient cough in detecting the presence of inflammation of the brain or its membranes, or inflammation sometimes of the belly, and of making him take a full inspiration in detecting the existence of inflammation of the lungs."—*Craigie*, p. 384.

Pressure may sometimes be necessary in order to the detection of inflammation, where the augmented sensibility of an inflamed part is characterized by tenderness rather than actual pain. "The pit of the stomach is tender during inflammation of the stomach, during fevers, in small-pox, and some other morbid states, in which this organ is affected with squeamishness, sickness, or vomiting. The skin over an inflamed or gouty joint, or a rheumatic muscle, is tender; in various morbid states of the mouth, throat, &c. food cannot be put into it without producing much uneasiness; and where an abscess is coming near the integuments, a sense of tenderness is almost invariable."—*Craigie*, p. 385.

The *tumor*, or *swelling* accompanying inflammation, like the heat, and sensibility, is traceable to the increase, principally, of blood in the part:—"principally," says Dr. Hall, "because inflammation does not subsist long without more or less of *effusion*, either of *albumen* or *serum*, in recent inflammation; of albumino-fibrine or lymph in the less recent, or of both; events of vast importance in this sometimes morbid, sometimes curative process."—*Hall*, p. 7.

The general varieties of *swelling* are, the *diffuse*, occurring in inflammation of the membranous tissues, such as the skin, mucous membrane, fascia, capular ligaments, and synovial membranes:—the *circumscribed*, of which a common phlegmon in the filamentous or cellular tissue, affords the best example:—and the *marginate*, having a distinct edge or boundary, like that of erysipelas, and seen in the *erythema marginatum* of Willan, and in the state of the skin accompanying traumatic gangrenes. Dr. Craigie introduces three others, general, pointing, and compressible, but the first is diffused swelling more widely diffused. The second belongs to the terminations rather than to the signs of inflammation. And the last shews that inflammation has terminated or is terminating in œdema, suppuration, or ascites.

The *symptoms* in inflammation, as contradistinguished from the signs which mark its presence, require to be traced in reference to 1. Inflammation; 2, Suppuration; 3, Gangrene. In acute adhesive inflammation, the most

general and uniform symptom is an increase in volume and frequency of the pulse, indicating unhealthy activity of the heart—rigor is frequent; and one important diagnostic symptom, is, “augmented power to bear the loss of blood.” Scarcely any of the symptoms characteristic of fever are present. Severe rigor, sometimes often repeated, announces the presence of suppuration, but frequently calls for great skill to distinguish it from intermittent fever. “Sometimes one rigor only occurs; sometimes several rigors occur, at uncertain periods; in other cases the rigors are repeated at such regular quotidian or tertian periods, as to lead to the idea that the case is intermittent fever or ague.

Gangrene is depicted in the collapsed condition of the countenance, and of the general system: paleness, and cold clammy perspiration, and sunken features; a similar condition of the general surface, and of the extremities; sub-delirium; tremor; oppression; sickness; a dry, brown tongue; sordes on the teeth; a feeble, thread-like pulse.

The secretions are more or less altered—the skin becomes drier and hotter—the insensible perspiration being suppressed, and in its place partial and unnatural sweatings occur. The urine is diminished in quantity, and altered in quality, becoming dark, high-coloured, cloudy and turbid, and yields a copious precipitate on the addition of corrosive sublimate.

Other general phenomena are also observable, and consist in the suspension, interruption, or injury of some healthy action or function. The disturbance of circulation may be attended with changes in sensation and motion, and temporary derangement of the intellectual functions. Disturbed respiration, or morbid forms of inspiration and expiration, may also accompany it; as likewise may various derangements of the alimentary functions.

The remarks of Dr. Craigie upon the importance of attending to the functional changes, which take place in inflammation, are so valuable that we need not apologize to our readers for transcribing them entire:—

“It will be found that it is impossible to describe the symptomatic fever of inflammation in general terms, or to limit it to invariable characters; and experience will show, that in one case the functions of circulation and respiration will be most affected; in another the functions of circulation and alimentation will be most affected; and, in a third, the prominent features of the fever will be found in the derangement of sensation and intellect, with injury to the alimentary function. It will also be found that the degree in which one function is affected will often remarkably modify the morbid changes incident to the other. In inflammation of the chest, or its organs, in which the circulation and respiration, and the dependent processes of secretion, &c. are invariably much deranged, the intellect is often perfectly clear, sensation quite correct, and muscular motion regular and healthy; and even the alimentary function is rarely much impaired during the symptomatic fever of pulmonary inflammation.

“On the other hand, when inflammation is seated in the brain or membranes, during which the patient may be delirious, or completely insensible, or affected with various spasmodic motions of the voluntary muscles, or lose the power of moving his limbs entirely,—the motion of the heart may not be quicker than natural, and in some instances is actually slower, and respiration may be in a correspondent state. On other occasions these functions are very considerably affected by the process which is going on in the

head; and the patient may die with very laborious breathing and a small fluttering pulse.

"Another instance of this modification of one order of processes in the living body by the condition of another, is presented in the inflammations of the alimentary canal. The morbid process in general produces a direct effect on the functions of this tube; and furred tongue, extreme thirst, squeamishness, loathing and actual vomiting, are the first results of its influence. While this disturbance, however, is occasioned in the alimentary function, that of circulation is often little or not at all affected. The pulse is sometimes not more rapid or harder than natural, and the respiration is quite healthy. There is reason to believe that in such instances, either the distressing sickness, which is known to influence the motion of the heart, prevents that frequent action which is sure to take place in ordinary circumstances,—or the inflammatory act may exist to a certain extent in sundry parts of the alimentary canal, without being followed by much disturbance in the function of circulation."—*Craigie*, p. 393.

III. The Changes in the Condition of Inflammation, according to Dr. Hall, are eight. Resolution—œdema—adhesion—cicatrix—softening—induration—ulceration—suppuration and gangrene. Dr. Craigie enumerates them somewhat differently; according to him, they are—resolution, deranged secretion, effusion, adhesion, hæmorrhagic effusion, softening, induration, hypertrophy, suppuration, ulceration, granulation, cicatrization, and mortification.

1. *Resolution* is the mere subsidence of inflammatory action, and the only proper termination of the process. It is effected by the absorbent power of the minute veins, and the contractile power of the capillaries.

2. The interstitial effusion of limpid albumen or serum, viewed distinctly from the repletion and enlarged size of the capillary and minute vessels, constitutes *œdema*, the *white-swelling* of inflamed parts, sometimes accompanying, sometimes following, the actual inflammation. It frequently remains in the form of a pale and colourless swelling, after the vascular repletion and the consequent redness have disappeared. In one case—inflammation of the larynx—it is frequently the cause of death, obstructing the upper orifice of the trachea and suspending respiration.

3. *Adhesion* is affected by an intervening deposit of coagulable lymph, or albumino-fibrine. When this takes place, uninterrupted by other processes, it is what surgeons designate *union by the first intention*. When other processes intervene, the effect is slower and modified, and cicatrization takes place. Both these occur in all the tissues of the body alike, whether internal or external, whether canals or cavities.

4. In *softening*, or *ramollissement*, the opposite of adhesion takes place—the natural cohesion of the inflamed part is destroyed; it, likewise, occurs in all the tissues; most, in the parenchymatous substance and mucous membranes; least, in serous membranes. In certain tissues, as that of the lung, it is analogous to mortification of other tissues. In others, the brain, for instance, it corresponds to suppuration.

5. *induration* belongs to chronic, *softening* to acute inflammation, and depends upon the interstitial deposit, probably of coagulable lymph, or albumino-fibrine.

6. Interstitial absorption, whereby the superficies of a part is removed, produces *ulceration*, which is *simple*, or healthy; *spreading*, or phagedænic; and *destructive*, or sloughing. In the external cutaneous, internal mucous, and synovial membranes, it is common; in the serous membranes, rare;—and it obtains the name of *suppuration* when it takes place in parenchymatous substances; and *caries*, in bony textures. It may proceed, or it may yield to an opposite process, as cicatrization. And, as an ulcerating is always an absorbing surface, it may give rise to enlargement of neighbouring glands, and to inflammation of the absorbent vessels. “The affection of the inguinal glands in chancre, and also in gonorrhœa, is a fact familiar to us all. Is there ulceration in all cases of the latter malady thus complicated with bubo?”—Hall, p. 11.

7. The observations of Brugmann, Hunter, &c. prove that purulent fluid may be formed without any breach of surface. This is *suppuration*, and one of the most frequent results of inflammation—exhibiting itself in the four varieties of *abscess*, where the pus is enclosed in an orbicular cavity; *fistula*, where it burrows between the adjacent textures; and *infiltration* and *diffusion* when it gets into the meshes of the cellular membrane, or is spread over the surface upon which it is formed.

8. Inflammation sometimes leads to *gangrene*, and to *sphacelus*; terms, conventionally employed to designate—the former, the condition of the part when on the point of losing its vitality—the latter, that of a part absolutely dead, and ready to pass into a state of decomposition.

“Nothing can illustrate the varied phenomena of inflammation, on a minute scale, better than the variolous pustule; at first, we have simple inflammation—inflammation of a sebaceous gland—redness and tumor; on the third and fourth days we have the effusion of *serum*, a vesicle, the duct of the gland tying down its centre; on the fifth day, we observe the effusion of *pus* around this central point and within the external margin of the vesicle, the intervening space being occupied by transparent serum, and appearing of a red, flesh-colour, well contrasted with the opaque pus, and there is a surrounding *areola* of deep inflammation; on the seventh or eighth day, the serum is entirely replaced by pus; and on the eighth or ninth, the central duct has been absorbed or has sloughed, and the pustule is orbicular. There is also the early effusion of *lymph*; and, at a subsequent period, it is found that a portion of the cutis vera has sloughed. The whole of this series of the phenomena of inflammation is followed by cicatrization, again implying the effusion of lymph.”—Hall, p. 15.

IV. In treating of the *Nature of Inflammation*, Dr. Hall institutes an inquiry into the condition of the true capillary, the secretory, absorbent, and newly-formed vessels, the minute arteries and veins, the larger vessels, the heart, and the blood. From which he concludes that each cause of inflammation induces such a physical effect upon the internal surface of the capillaries as leads to the adherence of the globules of blood to it, and to their ultimate secretion. This stagnation augments as the inflammation increases and becomes more diffused; and seems to constitute the essential character of the disease. Any augmented or diminished action on the application of stimuli, he has never been able to detect.

Obstructed capillary circulation leads to enlargement of the minute arte-

ries—arteries being muscular organs, and muscular organs always augmenting in the ratio of the opposition to be overcome by them in the performance of their functions. The condition of the minute veins is not ascertained.

The secreting vessels are variously affected by the various degrees of inflammatory action—an effusion of serum, marking the lower; a secretion of albumino-fibrine, the higher degrees; and pus, the highest of all.

The functions of the absorbent vessels are not less modified than those of the secreting vessels.

After lymph has been long poured out, it becomes organized, and numerous vessels carrying blood, are observed in it, pursuing a various course: these have been delineated by Monro, Hunter, and Lobstein, as seen in cicatrix, in portions of pendulous coagulable lymph, in layers of lymph, and in coagula of blood.

The enlargement of the blood-vessels is not confined to the minute arteries—the larger arteries, in the immediate vicinity of the inflamed part, also enlarge. It is not certainly known how far this enlarged condition of the arteries extends from the seat of inflammation, but that the inflammation of a part affects, not only the arteries and veins in its vicinity, but also the heart, is gathered from facts like these:—The pulse of the radial artery, leading to an inflamed hand, is more forcible than that of the other wrist; the veins leading from the inflamed hand, yield their blood more freely than the similar veins of the other arm; the heart also beats with an augmented impulse and greater frequency.

“The blood is well known to undergo considerable changes in inflammation: the appearances of cupping and of buff, of the blood drawn from a vein, are sufficient evidence of this fact; if the same appearances have not been observed so familiarly upon arterial blood, it is probably because arteriotomy is much less frequently performed than venesection.”—Hall, p. 21.

In Dr. Hall's chapter on this very interesting part of the subject before us, he has equally aimed to preserve facts and to discard conjectures, rightly observing, that—The condition of medical science still requires this separation of what is ascertained from what is only imagined—of the true from the false: to discover the former, and to detect the latter, are equally benefits conferred upon our profession. A sentence, which it would be well for every medical student to carry with him throughout his curriculum—and one, which every medical author would do well to set before his eyes whenever he takes the pen into his hand. Medicine, perhaps, more than any other science, if we except at the present time political economy and divinity, is inundated with conjectures and vain imaginations, and crude and undigested fancies, the abortions of prolific but feeble minds—and facts, comparatively few, come to be disregarded because of the superfluities of fiction, than which, there is nothing more evil, more dangerous, or more destructive of true science.

V. THE MODIFICATIONS OF INFLAMMATION, are most important and interesting, as these arise out of the varieties of texture, or are produced by differences in the conditions of the system.

Inflammation of the serous membranes is marked by redness, and found to consist in points, stars, and arborescent forms, arising, 1st, from enlarged vessels, and, 2d, from extravasated portions of blood. Dryness, from checked

secretion, is rare; augmented effusion from the surface of the membrane, more general. This effusion consists of serum, coagulable lymph, albumino-fibrine in *layers*, or adhesions, pus or puriform fluid; sanguineous serum. An important, although negative character of inflammation of the serous membrane is, that it seldom leads to ulceration.

In inflammation of the mucous membrane there is redness, injection, enlarged bloodvessels, increased secretion of mucus, at first transparent, afterwards opaque and puriform, re-assuming its transparence as the inflammation subsides. The exudation of coagulable lymph is rarely seen, although we have instances of it in the trachea in croup; and in the uterus, in dysmenorrhœa, when it forms, in each case, a false membrane.

Corresponding as inflammation of the mucous membranes does in these respects to that of the serous membranes, it is, in others, as diametrically opposed. Inflamed mucous membranes *soften* and *ulcerate*—events happily uncommon in inflamed serous membranes.

"Suppose an abscess in the liver. It enlarges; it proceeds to evacuate itself; this may be effected externally, in the hypochondrium; internally, into the intestines, or through the lungs into the bronchia. In the first case, adhesive inflammation unite the two contiguous portions of peritonæum, and the subsequent ulcerative process pierces through these two folds of membrane with the intervening layer of albumino-fibrine—and then through the external integuments. The cavity of the abdomen is protected and preserved from an effusion of pus, which would immediately induce a terrible and fatal peritonitis! In the second case, similar phenomena occur, and the abscess finds an issue into the intestine, the abdomen being still protected and preserved as before. In the third case, the two contiguous peritoneal surfaces first, and then the two adjacent pleural surfaces, unite by albumino-fibrous adhesions; and, lastly, the ulcerative process proceeds to open a way for the pus through these adherent membranes, the intervening diaphragm, the cellular tissue, and the bronchial parietes, and the pus is eventually expectorated, the cavity of the abdomen and that of the pleura being equally preserved!"—*Hall*, p. 28.9.

Mr. Travers tied the duodenum of a dog, so as completely to obstruct the passage. On the two following days the animal was sick, and his respiration hurried. On the 5th day he passed a copious stool of the same appearance as the fluid discharged by vomiting. From this time the sickness ceased, the breathing became natural, he fed and digested his food—the cure was established by the fifteenth day, and he was then killed. On examination, the lacteal system was well displayed. The folds of a portion of omentum contiguous to the strictured intestine adhered to it. A slight depression was observed in the circumference of the gut—which was then carefully laid open—the villi were turgid with chyle—the villous surface more vascular and deeper-coloured than usual. A transverse fissure marked the seat of the ligature. The edges of the section were distinctly everted, and the appearance corresponded with that of the union by suture.

In another dog, a fold of ileum was strangulated, a little above the angle. The strangulated piece below it was then cut off, and the cut extremities joined by ligature. The wound was sewed up, the animal not appearing to suffer materially—the second and third days he was sick and vomited bile, but drank a little milk and water. On the 4th day, passed a solid stool.

In a month, was perfectly well, and shot. The external wound was healed. There was no appearance of disease in the abdomen—and but few adhesions

of the peritoneum. The ileon lay thus  upon the vertebræ. At the internal angles the sides adhered to each other. The opposite was closed by adhesions to the omentum and neighbouring intestine. Upon laying open the tube, it appeared that the ligature and the ends of the gut had been discharged through the canal. At one point, the line of union was scarcely completed; and there appeared a little cyst, like an abscess, communicating with the tube, in which the tied ends of the gut had been lodged previously to their being voided.

“In all these cases,” and in the similar ones of hernia, and of intussusception, “the contiguous points of serous membrane unite by the effusion of albumino-fibrine; the interior tissues, with the mucous membrane, are severed by the ulcerative process. The cavity of the peritoneum is *guarded* from the irruption of the fecal matters by *adhesive* inflammation; whilst the canal of the intestine is *preserved entire* by the *ulcerative*! Now let us suppose these properties of the serous and mucous membranes reserved! Every inflammation of the former would tend to ulceration and abscess; every inflammation of the latter, to close a canal!”—Hall, p. 31.

Inflammation is also modified by the different conditions of the system. In rubeola, for instance, the phlogistic diathesis prevails. In scarlatina, the character of the local inflammation and its attendant fever, is frequently typhoid. And changes take place corresponding to these differences. The changes which take place in inflammation occurring in the phlogistic diathesis, as has already been shown from Dr. Hall’s work, are aptly illustrated by the varioloid inflammation, in the *distinct* form; that which takes place when the typhoid type is present, receives a similar illustration from the pen of our author in the *confluent* variety—the papulæ are less hard and elevated; the serum and pus are less distinctly characterized, and resemble an undefined, and sometimes bloody, *santes*; the progress, the circular and orbicular forms, the periods, the termination of the eruption, are less marked, less distinct; and there is a greater disposition to slough, and consequently, to scars.

We have been led into so full an analysis of this subject, as treated by Drs. Hall and Craigie, that we have little space left for considering the chapters devoted by the former to “the distinctions between inflammation and irritation and congestion”—“the influence of inflammation”—and “the diffusion of inflammation”—and must very briefly notice that which treats of *inflammation as a curative means*. Without it, the art of surgery could not exist. Every operation implies the resources of Nature in healing divided parts. As a curative measure it is employed by Nature and Art. By the former, in apoplexy, in the formation of an artificial anus, and in conducting pus from an hepatic abscess to the surface;—by the latter, in the cure of artificial anus as devised by Dupuytren, in the cure of hydrocele by injection—in that of prolapsus uteri—and in the treatment of nævus, &c. —the two latter applications of it are claimed by Dr. H. as inventions of his own.

VI. THE TREATMENT OF INFLAMMATION receives no additions of any con-

sequence from either of the writers before us—to the remedies more especially called for in internal inflammation, viz. blood-letting, mercury, and tartrate of antimony, Dr. Hall devotes particular attention. We pass over the intermediate chapters on tubercle, melanosis, fever, &c. to notice these.

On Blood-letting. It is a remarkable fact, that “if several patients of similar strength and constitution, but affected by dissimilar diseases, be respectively placed in the erect position and bled to deliquium, they will be found to lose very various quantities of blood,” one will bear the loss of 50, 60, or even 70 ounces, without syncope—another will not endure to lose four ounces.

The rationale appears to be, that, “different diseases induce in the constitution different powers or susceptibilities in regard to the effects of loss of blood. Each disease seems to have its own virtue in this respect: this is determined by placing the patient perfectly erect, and bleeding to incipient syncope: the quantity of blood which flows is the measure of the protective influence of the disease in one class of cases, and of its influence in superintending a susceptibility to the effects of loss of blood on the other. In cases in which it is doubtful whether the pain or other local affection be the effect of inflammation or of irritation, the question is immediately determined by placing the patient upright and looking upwards, and bleeding to incipient syncope: in inflammation much blood flows; in irritation very little. The violence of the disease, the powers of the system, and the due measure of the remedy, are determined at the same time. *There is, in my opinion, no single fact in physic of equal importance and value, in the diagnosis of acute diseases, and in the use of a powerful remedy.*”—Hall, 79-80.

An interesting scale of diseases may be formed representing these properties.

Persons in health, of moderate strength, will generally faint if bled in the erect posture, on taking fifteen ounces of blood. Dr. H. has known 70 ozs. to be taken in the sitting posture, in the tendency to apoplexy without syncope! but the case is an extreme one. Patients with meningitis, encephalitis, pleuritis, or pneumonia, frequently lose 35 ounces of blood without fainting. In *bronchitis*, little more is borne to be lost than in health. A stout person in *fever* will frequently faint on losing 10, 12, or 14 ounces of blood. In *intestinal irritation*, with urgent symptoms, even the abstraction of nine or ten ounces will generally induce deliquium. In *delirium tremens* or *puerperal delirium*, the patient soon faints. And the same thing is observed in cases of violent reaction, arising from loss of blood. In dyspepsia, hysteria, and chlorosis, the susceptibility to syncope is very great, and Dr. H. has known a patient of good strength, affected with cholera, faint on taking four ounces of blood, who had previously lost, under the influence of inflamed mamma, 20 ounces without faintness. *Paralysis* from *laceration of the brain* and *apoplexy* from concussion, before reaction takes place, or inflammation is established, are cases also of diminished tolerance. It must also be carefully noticed that cases of accident do not bear the loss of blood like those of inflammation.

These facts afford:—1. A rule for blood-letting, in all cases in which it requires to be fully instituted. 2. A guard at once against inefficient and undue blood-letting. And 3. A source of diagnosis.

The rule is suited to the degree as well as the duration of the disease; and is not less adapted to those most frequent of all events, *mixed cases*—inflammation and irritation conjoined.

"It is difficult to say whether more injury has been done by an undue or by an inefficient use of the lancet. In inflammation we must bleed fully—in irritation we must bleed cautiously. Inefficient blood-letting in the former, and undue blood-letting in the latter, are alike dangerous or even fatal to the patient; from both extremes we are guarded by the rule which I propose. By directing the patient to be placed in the erect position, and bled to incipient deliquium, we shall often take much more blood than we should have ventured to *prescribe* to be taken in inflammation, and very much less than we might be supposed to direct in irritation; and in both these cases the rule conducts to the only safe mode of treatment. And, if much blood has flowed before the occurrence of syncope, inflammation must be suspected; if little, we must suspect that, however similar the symptoms, the case is in fact of a different nature—perhaps irritation—perhaps exhaustion."—*Hall*, p. 81.

He has also found that, in every case in which early syncope occurs from blood-letting, the more remote effects of loss of blood, as reaction, or sinking, are also very liable to occur; and it is in these cases that sudden dissolution has always followed the use of the lancet. There is, in every point of view, intolerance of loss of blood. The reverse of all this obtains in inflammation, which seems to be incompatible, to a certain degree, with the effects of loss of blood; these are, on the other hand, very apt to supervene as the inflammatory action subsides.

Dr. Hall very wisely solicits the co-operation of the profession in the further investigation of this subject, not imagining his "*rules*" to be without exceptions, and rightly deeming it "as important that these should be pointed out, as that the rule itself should be established." He makes mention, himself, of two such. In some cases of fever requiring blood-letting, the patient cannot support the erect position: in such a case the arm must be first prepared; the vein should then be promptly opened; and then the patient should be gently raised and *supported* in the upright position, carefully avoiding all muscular effort. On the other hand, in the case of congestion of the brain from exhaustion, there is not such early syncope from blood-letting as might be expected; and yet it is obvious that the system cannot bear the loss of blood.

"Two objections have been made in reference to this rule for the administration of blood-letting: the *first* is, that in some cases not inflammatory, more blood might be taken than the patient could bear to lose in order to institute the test; my reply is, that such cases are not *included* in my proposition, which only relates to cases in which blood-letting is *required to be FULLY* instituted." The second is, that in some cases *more* blood ought to be taken than would flow before syncope is induced. I greatly doubt this assertion; I think it replete with *peril*; but if it be true, let the patient be replaced in the recumbent posture, wait a few minutes, and again let the blood flow; we have at least ascertained the state of tolerance of loss of blood, and this fact will *guide* us in determining *how much more* blood may be withdrawn; it is a fact *added*; it is *knowledge* substituted for what *must* otherwise be ignorance." P. 84.

The results of Dr. Hall's investigations appear in a table, which we shall add to the pages of this review, fully agreeing with its very able author, that—No one *can* pass the eye over it without being impressed with the value and importance of the facts it displays, with the diagnostic, the guide, the guard, which it affords.

I. AUGMENTED TOLERANCE. Represented by the mean quantity of blood which flows before incipient syncope.

I. Congestion of the brain.

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|---------------------------------------|-----------|
| 1. Tendency to apoplexy | } §XL.—I. |
| 2. Apoplexy from congestion | |

II. Inflammation of the serous membranes.

- | | |
|--|-------------|
| 1. Arachnitis | } §XXX.—IX. |
| 2. Pleuritis | |
| 3. Peritonitis | |
| 4. Inflammation of the synovial membrane,
and of the fibrous textures of joints . . | |

III. Inflammation of the parenchyma of organs.

- | | |
|--|---------|
| 1. Of the substance of the brain | } §XXX. |
| 2. Pneumonia | |
| 3. Hepatitis | |
| 4. Inflammation of the mamma, &c. | |

IV. Inflammation of the skin and mucous membranes.

- | | |
|-------------------------|---------|
| 1. Erysipelas | } §XVI. |
| 2. Bronchitis | |
| 3. Dysentery | |

II. HEALTHY TOLERANCE. This depends on the age, sex, strength, &c., and on the degree of thickness of the parietes of the heart, and is about . } §XV.

III. DIMINISHED TOLERANCE.

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|---|-------------|
| 1. Fevers and eruptive fevers | §XII.—XIV. |
| 2. Delirium tremens and puerperal delirium . . | §X.—XII. |
| 3. Laceration, or concussion of the brain . . | } §VIII.—X. |
| 4. Accidents before the establishment of inflammation | |
| 5. Intestinal irritation | } §VIII. |
| 6. Dyspepsia. Chlorosis | |
| 7. Cholera | |

Dr. Hall quotes largely from Mr. Wardrop's lectures in confirmation of the views published by him, but with an expression of sorrow, which is meant to convey a gentle hint to the latter gentleman, that he has set forth as his own what he ought to have acknowledged as coming from our author. Our readers will recollect that in the Number of the Med.-Chir. Review, for April, we had occasion to record a similar complaint preferred by Mr. Mayo against Dr. Hall. It is the penalty which an original thinker must be content to pay for the exclusive merit of originality, that his thoughts will be appropriated by those who were never capable of conceiving them—and

his improvements will be more widely adopted than generally acknowledged. The great reward of all such, and that to which we would fain entreat them to turn from ungenerous rivalry, and piratical plagiarism, is the high and noble consciousness of having "done the state some service," whether known and acknowledged or not. Men may be impeded in a career of extensive and extending usefulness, by condescending to defend their own claims to the merit of discoveries, or inventions—when silence would be the severest punishment they could inflict on those who "filch from them their good name;" and leave themselves free to prosecute their course, right onward to the sure guerdon of patient merit—which is certain to be dispensed by that almost only dealer in even-handed justice—Time.

With these remarks we would conclude our notice of Dr. Hall's chapters on Inflammation and Bloodletting, but must add a couple of most interesting cases. A gentleman, a few miles out of London, was seized with an affection of the head. Dr. Hall was sent for, and found that he had been bled early, and had fainted speedily from loss of blood. "The case was long one of great anxiety. Another physician was consulted. It was supposed to be 'ramollissement.' Confiding in the diagnosis afforded by the *early* syncope, in the *early* stage of the disease, from bloodletting, I continued to hold out hope of recovery. The patient did recover! Now, the hope felt and held out, in this case, flowed almost entirely from the confidence reposed in the diagnostic afforded by the event of the blood-letting!" Dr. Hall was further consulted by a medical man, who feared peritonitis, in the case of his wife. There had been previous attacks of the same kind; there was great pain and tenderness of the abdomen; the tongue was loaded; blood-letting in the upright position, was prescribed; the patient, though young and stout, fainted on losing 8ozs. From this moment the diagnosis was clear—the treatment unequivocally indicated—the recovery uninterrupted.

With the final observation of our author that, in all cases where there is great tolerance of blood, blood-letting is remedial and safe—in all cases in which there is intolerance, it is proportionably of doubtful efficacy, and replete with danger; we conclude, for the present, our review of these volumes. As they are both written for the student and young medical practitioner, we are happy to have it in our power to recommend both to those for whom they were designed. Dr. Hall's is, like most that he writes, excellent; so much so, that its brevity is the chief fault we have to find with it. Dr. Craigie's is a very valuable compendium of the present knowledge possessed by the profession, but it is heavy in the perusal from being as much too long as the other is too short. If Dr. Hall would fill up his own outlines fully, he would render an inestimable service to the profession and the public. And, on the other hand, if Dr. Craigie would employ some of his pupils at the not unprofitable drudgery of stripping his important facts of the unnecessary verbiage in which he has introduced them to his readers, he would reap the benefit of it, by his volumes being much more extensively circulated, and thereby rendered much more generally useful.

No pupil in either of their classes, should be without these works—as a text book, interleaved, and to be filled up by the diligence of the student, from the oral lectures of the author, Dr. Hall's will be indispensable to his own pupils—if they would profit by the teaching of such a master, who, if

he lecture, as well as he writes, will command attention, and say little that is not worthy of being committed to memory.

There still remains a great want in the study of medicine, which these volumes no more supply than others that have gone before—and which, is only partially supplied by our professional cyclopædists. We mean a regular course of instruction, which shall preserve our students from desultory studies, and from partiality in the choice of subjects for study. Rome, however, was not built in a day, and when we compare the present state of the medical classes in London, with those of our young days, we take courage from the prospect they open, to believe that the march of improvement in medical education is rapidly progressing to that point, whereat, all who are studious may learn—all who are diligent may acquire knowledge—and all who are solicitous to improve in their profession will find facilities afforded them to do so, and the hinderances to their doing so, taken out of the way. There is, indeed, no royal road to knowledge—but there are many impediments in the beaten paths, and many of those paths are unnecessarily rugged, as well as circuitous. Never mind! We shall have some Mac Adam to repair the roads for us in medicine by and bye—and then, we see no just cause or impediment why, when the railways are once laid down, we should not travel with the rapidity of a steam-carriage, along the beaten track, from one subject to another, through every department of science.

THE SPAS OF GERMANY. By the Author of "St. Petersburg." Two Vols. 8vo, with numerous Woodcuts. Colburn, July, 1837.

THE writer of these amusing and useful volumes has wisely cut adrift the long train of titles, honours, and distinctions which were appended to his name on former occasions—shrewdly concluding that one good work outweighs in public estimation a score of titular and honorary decorations—and thereby adopting the sage declaration of the Roman Bard.

—quæ non fecimus ipsi
Vix ea nostra voco.

The authorship of "ST. PETERSBURGH" is quite sufficient passport to the public to insure a perusal of these volumes, while their fame must rest on their own individual merit. A more popular subject could hardly have been selected than the Spas of Germany. Since the publication of the "BRUNNENS," the road from Coblenz to Frankfort is almost worn to pieces by the carriage-wheels of the English. Our countrymen and women have swallowed more salt water in Germany during the last five or six years than would float the whole Navy of England! How many diseases, disorders, and vapours have been washed out of the British constitution by these drenchings we are unable to calculate; but if only a tithe of those who make the grand tour of the Spas peruse the volumes before us, the sale will be prodigious. Dr. Granville has endeavoured to combine the utile with the

dulce—the facetiæ with the scientiæ—the charm of “personal narrative,” with the investigation of chemistry, pathology, and therapeutics. We are not prepared to assert that these various qualities are in the best possible proportions. Indeed we suspect that the light, the fugitive, the local, and the temporary incidents are too frequent and prominent in a work which is designed and calculated to issue from the press in successive editions, and to become a stock-book—or we might say, a *starke*-book for travellers in the Spa direction. The author will have many opportunities, we doubt not, to strike out a large portion of *gossip*, in order that more substantial materials may occupy its place.

Be this as it may, it is clear that we must pass over all the facetious, humorous, and piquant anecdotes of these volumes, so as to cull out and concentrate for *our* grave readers the professional information scattered through our author's pages.

BADEN BADEN.

Dr. Granville in order to proceed in the form of “personal narrative,” as Humboldt would say, classes the Spas of Germany, not according to their chemical or medicinal qualities, but according to their geographical position in the route which he pursued while visiting them. We attach little importance to the *artificial* classification of *natural* springs. They are generally forced, and seldom useful in practice. Every spring has some peculiarity of temperature or composition which distinguishes it from others of the same class. Our readers are aware that the waters of Baden Baden are upwards of 150° of Fahrenheit. Though cooled down to 98 or 100, there is still much harm done by the almost indiscriminate use or rather abuse of hot baths there as elsewhere, as is acknowledged by Dr. G. himself. A rich merchant was found dead in one of these cauldrons of Medea, and a lady lost the use of her limbs. In our notice of the Baths of Pfeffers, a few numbers back, we adverted to the injury which the human frame is apt to sustain by hot baths incautiously employed.

“There are certain conditions of the body which render these hot baths inadmissible; in such cases, to attempt them, or to persevere in their use, is to rush into danger. Such as have a full, heavy, and distended liver; others who possess very weak powers of digestion, and at the same time suffer from accumulated phlegm in the stomach, and crude or foul secretions in the intestines; a third class, whose strength has been wholly annihilated by a long and dangerous illness; lastly, people naturally inclined to collections of blood in the vessels of the head, and subject to giddiness, palpitations of the heart, or who have had a threatening of apoplexy: all these must abstain from the hot bath at Baden, if they care for their safety.” 36.

The above extract, though not worded in the most definite way, exhibits a pretty extensive catalogue of diseases incompatible with hot bathing. But the list might be greatly extended. There are very few chronic diseases where local congestions are not common or even frequent—and what disease, of any standing, is unaccompanied by deranged digestion and “crude and foul secretions?” In fact, the hot bath proves every day, even in this country, a preparatory for the grave! There is scarcely an acute inflam-

mation of any internal structure where the hot-bath is not dangerous—yet there is scarcely one for which it is not daily prescribed by routine practitioners. The following passage points out the physiological effects of the Baden baths on the constitution *in health*.

“A fulness in the head, for which I was obliged to have recourse to the application of cold water to it while in the bath, and a *demangeaison* of the skin during the whole day after, were two, only, of the ill consequences of my trying the *Ursprung*, without any other reason for doing it, than that I wished to ascertain, on my own constitution, the effects of that water. I followed the same method at all the hot-springs, in the course of my long and widely extended peregrinations to the German Spas; and the impression left on the constitution must have been striking, when a noble patient of mine, whom I had occasion to meet at one of the most distant of those Spas, wrote to her friends at home that *the Doctor* had tasted of so many mineral waters, and bathed in so many hot-springs, that he looked as if he had been, first parboiled, and then broiled.” 39.

Another effect was an almost irresistible propensity to sleep—an effect produced by the baths of Baden, Wisbaden, Gastein, Toplitz, Carlsbad, Ems, &c. This, in itself, shews the determination which such baths induce to the head. Those physicians who reside at these baths, and who are honest and candid, will be apt to make such disclosures as the above. Baden Baden attracts more visitors who are in search of pleasure than of health. The gambling-tables are well frequented, and we were grieved and disgusted to see some of our fair countrywomen sitting whole evenings at these HELLS, and gambling with as much gout as any black-leg in Regent-street or Pall-mall! A precious school this for the wives and daughters of our aristocracy! In the winter-months families may reside in Baden Baden at a very cheap rate—and several English families do so.

WILDBAD.

This obscure but rising spa is situated near Stutgardt, at the bottom of a valley. We transcribe the following graphic description of a Wildbad bath, in our author's own words.

“After descending a few steps from the dressing-room into the bath-room, I walked over the warm soft sand to the farthest end of the bath, and I laid myself down upon it, near the principal spring, resting my head on a clean wooden pillow. The soothing effect of the water, as it came over me, up to the throat, transparent like the brightest gem or aquamarine, soft, genially warm, and gently murmuring, I shall never forget. Millions of bubbles of gas rose from the sand, and played around me, quivering through the lucid water as they ascended, and bursting at the surface, to be succeeded by others. The sensation produced by these, as many of them, with their tremulous motion, just *effleuraient* the surface of the body, like the much vaunted effect of titillation in animal magnetism, is not to be described. It partakes of tranquillity and exhilaration; of the ecstatic state of a devotee, blended with the repose of an opium eater. The head is calm, the heart is calm, every sense is calm; yet there is neither drowsiness, stupefaction, nor numbness: for every feeling is fresher, and the memory of worldly pleasures keen and sharp. But the operations of the moral as well as physical man are under the spell of some powerfully tranquillising agent. It is the human tempest lulled into all the delicious playings of the ocean's after-waves. From such a position I willingly would never have stirred. To prolong its delicious effects what would I not have given! but the Bad-meister ap-

peared at the top of the steps of the farther door, and warned me to eschew the danger of my situation ; for there is danger even in such pleasures as these, if greatly prolonged.

I looked at the watch and the thermometer before I quitted my station. The one told me I had passed a whole hour, in the few minutes I had spent according to my imagination ; and the other marked $29\frac{1}{2}^{\circ}$ of Reaumur, or $98\frac{1}{2}^{\circ}$ of Fahrenheit. But I found the temperature warmer than that, whenever, with my hand, I dug into the bed of sand, as far down as the rock, and disengaged myriads of bubbles of heated air, which imparted to the skin a satiny softness not to be observed in the effects of ordinary warm baths.

These baths are principally used from five o'clock in the morning until seven, and even much later ; and again by some people in the evening. The time allowed for remaining in the water is from half an hour to an hour ; but it is held to be imprudent to continue the bath to the latter period, as experience has shewn that such sensations as I felt, and have endeavoured to describe, prove ultimately too overpowering to the constitution, if prolonged to excess." 112.

It is natural to ask whence all these heavenly effects of a water which, in every pint, contains only *one grain* of solid matter? It is translucent tasteless, odourless. Our author thinks that all its efficacy is owing to *temperature*—and we agree with him. But he has recourse to conjecture. "It is not the *thermometrical* temperature—it is the caloricity of the water, which is not measured by Fahrenheit—a principle imparted by Nature to the springs in question, from sources which, as yet, have escaped detection." Our author, as if afraid that some critic might here exclaim—

"Nec Deus intersit nisi dignus vindice nodus,"

goes on to a more tangible explanation of the divine effects of the Wildbad waters.

"But there is, in my estimation, a still greater superiority on the side of the Wildbad spring, as a salutary bath, over every other,—no matter how well-managed the latter be ; and that is the simple fact that, whereas in all the other baths the temperature of the water in which the patient is immersed must, and does, progressively diminish, in the course of the hour, or half-an-hour even, during which the operation of bathing lasts—that of the water of the Wildbad bath is uninterruptedly the same, for the water continues in its never-varying natural condition." 116.

Here our author is mistaken. The Baths of Pfeffers, if not many others, are fed by such a profusion, and are so exactly the temperature of the blood, that the waters never sink below nor rise above 98 or 99, for months together. They are constantly running into and out of—that is to say, through, the baths in which the bathers lie.

But Dr. G. has probably attributed too much to the *physique*, and too little to the *morale*, while estimating the delicious sensations produced by the waters of Wildbad. After the fatigues of travel, the novelty of the scene—the expectations that have been raised—the exaggerations of others—and last, not least, our own embellishments, tend not a little to exalt and enhance our actual sensations while bathing and ruminating in the fervid waves of celebrated spas. The delineation of these sensations loses nothing by transcription for the public, however honest may be our intentions, however candid and impartial we may conceive ourselves to be. Our author is well aware of the highly-coloured descriptions of the Brunnens given by a

popular author, and how many disappointments were occasioned thereby. Yet no one will suppose that Sir F. Head was blowing "bubbles" for the sake of deception.

But we must rapidly pass over some minor spas included in Dr. Granville's tour, such as Liebenzell, Deinach, &c. The first on the list, indeed, ought not to be entirely overlooked, considering its celebrity in cases of sterility. We believe an illustrious personage of this country visited Liebenzell with the hope of progeny, though that hope was disappointed.

"I have been assured that these baths have been found very useful in scrofulous diseases, and in consumption, accompanied with tubercles; in which latter condition of the lungs, it is said that the exhalation of the surrounding fir forests is also particularly serviceable. In hæmorrhages of all sorts, such as spitting of blood, habitual bleeding from the nose, or from hemorrhoidal vessels, as also where the natural excretion of blood is too profuse, the Liebenzell waters have acquired a well-merited celebrity; and so far, they differ essentially from the Wildbad waters,—as I have shown in the preceding chapter. Used both inwardly, and as baths, they have of late years, performed some striking cures, in cases of morbid sensibility of the stomach and intestinal canal, and have removed attacks of neuralgia, or tic, dependent on that condition of the digestive organs. In female patients, and such of the other sex as possess irritable nerves or who cannot endure the action of exciting baths, or active medicines, the effects of the *Liebenzell* springs deserve more attention than they seem to have hitherto received. Dr. Plieninger, the gentleman whom I met at Wildbad, and who is a celebrated accoucheur in Stuttgart, assured me that he found the *Liebenzell-bad* most strikingly beneficial in female complaints, and that the reputation they had enjoyed for many years, of removing the causes of sterility, was by no means undeserved." 139.

BAD-GASTEIN.

Between Munich and Vienna, embosomed in the Noric Alps, and 3000 feet above the level of the Mediterranean, lies the Spa of Gastein—situated in a most romantic locality among rocks, woods, and cataracts. A humorous and we have no doubt, a faithful sketch is given of Dr. Storch, the physician in ordinary of the spa, and "the Nestor of the spa-doctors in Germany." Dr. G. waited on this venerable Nestor, who was at dinner, being twelve o'clock!

"We caught him, *en demie chemise*, tête-à-tête with his son, eating, at twelve o'clock, his dinner, which lay in the most patriarchal style, partly on his knees, and partly on the only other piece of furniture that appeared to be in the room, besides the chairs. With his mouth full, he welcomed me to Gastein, on hearing my name, and hastened to resume his coat and waistcoat, smiling, at the same time, with an ineffable grin of black-teeth demonstration." 304.

The worthy doctor was found to be more intelligent than was anticipated. But he had one fault. He was infected with *HAHNNEMANIA*. His conversion to the new light was sudden and almost miraculous. He was prohibited from dispensing medicines and officiating as M.D., at the same time. Another person was, therefore, appointed to dispense. Dr. Storch instantly embraced *HAHNNEMANIA*, and could then keep a whole pharmacopœia in a snuff-box! The apothecary was ruined! Such, we suspect, is the origin of homœopathy in more places than Gastein.

The water of this spa is of the high temperature of 115°. The vapour rising from its source is said by Dr. Storch to be wonderfully efficacious in tracheitis and incipient consumption, when inhaled into the lungs. The water itself exactly resembles hot distilled water, having neither taste nor smell. Minute analytical chemistry, however, has detected four-fifths of a grain, nearly, of solid matters in the pint of water. This fraction of a grain is divided amongst twelve different ingredients! Sulphate of soda occupies more than half of this four-fifths of a grain of saline matters. No sensible effect follows the drinking of this water beyond that of ingurgitating any other pure water, and therefore it is only used as a common beverage. The issue of this water is on rather a scanty scale, and hence the cisterns for bathing being filled over night, are seldom emptied in the day. "Few persons, therefore, get a really clean bath"—a comfortable reflection truly! Dr. G. took care to get a first turn at five o'clock in the morning, and consequently had a clean bath. He staid three quarters of an hour.

"The effect produced by the water, on the skin of the hands, during the first ten minutes of being immersed in it, was curious. The bath corrugated and crisped it as if I had held the hands in very hot water for a considerable time; and on passing my hand all over the body, previously to the skin of the fingers becoming crisp—in fact, almost immediately after going into the bath—instead of gliding smoothly and oilily down it, as at Wildbad, it felt ruvid, and the two surfaces seemed to meet with resistance, as if a third body, slightly rough, like the finest sand or powder, lay between. I returned to bed and felt very much soothed and inclined to sleep, but not from any sensation of heaviness in the head or oppression. My breathing was somewhat interfered with, while in the water, sitting upright during the first ten minutes; but this symptom soon vanished. The body did not appear so buoyant in the water as at Wildbad." 322.

The following passage contains a long list of maladies for which the waters of Gastein are famous.

"I have no more doubt of the power which this mineral spring possesses, in the diseases for which it has been recommended, than I have of the effect of bleeding in subduing inflammation. In all complaints which are not connected with increased action of the heart, or with excitement, or (as the German physicians properly term it) with a *morbid elevation of vital activity*, the Gastein baths, judiciously and sufficiently used, will not disappoint the patient. Universal debility, dependent on a derangement of the nervous system, without any apparent inward disease to account for it—depression of spirits and general languor of the constitution, from anxiety of mind—paralysis, in young as well as aged people, consequent on repeated rheumatism, gout, or apoplectic attacks, and such as is produced by irregularities of every sort—affections of the spine—hysteric attacks, and other sufferings owing to sexual disturbance in females—erotic diseases, imperfectly cured—contractions in the muscles of the limbs, or in the joints, and the hip-disease—premature old age—chronic ulcers or eruptions—genuine gout and rheumatism—lastly, derangement of the digestive organs, accompanied by laxity or inactivity of the stomach, or following obstinate diarrhoea and dysentery: these form the catalogue of disorders in which the Gastein water has evinced its marvellous power." 330.

If patients afflicted with any or many of the above catalogue of human ailments (not a few of which are diametrically opposite to each other in their pathology) possess half the faith of our author, we cannot wonder at the

miraculous cures that are performed—or, which is the same thing—*said* to be performed! The liquefaction of the blood of St. Januarius is just as *credible*, and authenticated by far more numerous witnesses than the cures by the Gastein!—some of the grave doctors at these Spas believe that a large quantity of the water is absorbed by the bathers, and that its medicinal agencies are thus much greater than if taken into the stomach. This is a mere gratuitous assumption. Dr. Granville *imagines* that the temperature of these Spas being derived from some central volcanic *foyer*, its effects are different from those of temperature artificially created. The worthy doctor does not, however, attach much importance to this hypothesis—and in this we fully agree with him.

CARLSBAD.

This, the king of Spas, is introduced to us by a quotation from the facetious Lord Alvanley's translation of a Latin Ode in praise of the Spa, written some centuries ago. The grand spring here, the *SPRUDEL*, astonished our author.

"The sudden view of the violent, lofty, constant, and prodigal up-pourings of hot water out of the bowels of the earth, foaming in the midst of its clouds of vapour, within 45° of the boiling point, on the very margin of a cold, placid, and sluggish stream, the Teple,—rivetted me to the spot for some moments." Vol. 2, p. 6.

The temperature of the water is 167° of Fahrenheit, and contains a large proportion of soda, in different combinations, with an extremely minute portion of iron and a good deal of carbonic acid gas.

"As early as five o'clock in the morning the little nymphs of the *Sprudel*, smart, lively, young lasses, the daughters of poor citizens of Carlsbad, are in attendance to distribute, with critical impartiality, the bounty of their spring. They are all dressed alike, in green dresses in the morning, and in light-coloured robes in the evening: for many invalids attend the *Sprudel* and the other springs at evening also. Standing at a little distance from the boiling jet, and holding in their hands a stick, four feet long, with a cup-holder fastened at one end of it, these damsels extend the latter towards any one whom they see approaching with his beaker—receive it in their cup-holder—and plunge it within the smoking column of water. From this it is immediately withdrawn quite full, and presented to the same individual again, who, with what relish he may, disposes of its contents. I went through this ceremony with becoming gravity for two or three successive mornings, and quaffed each time half a dozen beakers of the scalding liquid, without making a wry face. Not so with many of those by whom I was surrounded. There were some who sipped, with pigeon sips, the salutary elixir, giving only a gentle shudder as they drank it; and they were ladies. There were others who, more adventurous, swallowed half a beaker full at once, with only a slight pursing up of the lips, and looked round for approbation; and these were your *esprits forts* and your dandies of the place. My Lord A—and Sir J. L—looked grim, when disposing of their dose, and declared it had no taste. Here I detected one, who thought himself unseen, bringing slyly out of his large *beniche* a lump of sugar, which he kept in his left hand, ready to pop into his mouth the moment his beaker had quitted it; and he was one of the subjects of Mahmoud, who had not yet exchanged the turban for the ugly and tasselled red cap. There I noticed another, who had just received his beaker-full of the *Sprudel*, from the fair hand of one of the nymphs (who eyed him all the time with a malicious meaning), retire quickly into a cor-

ner, his face turned to the wall, where he swallowed in secret the noxious draught; and he was a Polish Jew, by his dress. In this manner I watched the ever-varying modifications of the human countenance, produced under the influence of one and the same agent; and I could not help saying to myself that men are but overgrown babies.

But how humbled and subdued are such *babies* under disease! Look at the air which inward suffering gives to the various individuals here assembled—how meek and unpretending in general! How different would the gait of some of them be, were they in health; and with what difficulty would others bear (were they not made allequal by malady) the temporary association with *everybody* and *nobody*! Many of them looked pleased or unoffended, who would have leered superciliously, and annihilated with a scowl, their jostling neighbour, a Jew from Frankfort, or the bearer of a *Plica Polonica*, from Cracow, who was led about by his servant in a complete state of blindness,—so often the concomitant of that disgusting disorder! Instead of this, all seem to go through their hour of trial at the spring together, and harmoniously; envying each other only in proportion to the more or less rapid progress they witness among themselves, towards that restoration to health which they all equally desire. A glance at the vignette of the title-page of this volume will convey, probably, better than my words, a true idea of this *tableau-vivant* of the SPRUDEL, unique of its kind in Europe." 21.

The Carlsbad waters were chiefly used as Baths till of late years, when their internal use has much superseded their external. From five to eight beakers (six ounces) are generally drunk every morning, as deobstruents or alteratives—for in this quantity the operation on the bowels is slight. The case of an honest Burgher of Prague—Janus Braunes—is mentioned by our author. He has frequented the Spa for eight years past, and drinks from 35 to 40 goblets every morning, and eight or nine in the evening, for six weeks! !

"To prevent mistakes he puts forty copper coins in one of his breeches-pockets when he leaves home, and transfers one of them to the empty pocket of the other side, at each goblet of water he swallows. He is subject to obstinate obstructions of the bowels, experiences at times acute pain in the liver, and his breathing is laborious. On his arrival at Carlsbad he is not able (in consequence of the latter symptom and an excessive corpulency, which he contracts during the winter at home, and which makes him unwieldy) to take any walking exercise; but, before the expiration of the cure, he can ascend all the hills in the neighbourhood, and the circumference of his body diminishes not less than ten or twelve inches." 37.

When we calculate and reflect upon the *quantity* of fluid which, at this and other Spas, is driven through the various vessels and emunctories of the body, it is difficult not to come to the conclusion that it is to *dilution* rather than to medicinal efficacy that the cures are to be chiefly ascribed. Who can doubt that the current which washes away ten or twelve inches of Janus Braune's circumference, must sweep out the Augean stables that are situated within that long line of circumvallation?

"It will be sufficient for my purpose to state generally, that those waters exert their principal sanative action, 1st, on all chronic affections which depend on debility of the digestive organs, accompanied by the accumulation of improper secretions; 2dly, on all obstructions, particularly of the abdomen, which, as Becher, the oracle of Carlsbad, observes, they resolve and disperse; 3dly, on the acrimony of the blood, which they correct, alter, and evacuate, or drive

towards the extremities and the surface of the body; 4thly, on calculous and gravelly deposits; 5thly, on many occult and serous disorders, the nature of which is not readily ascertained until after the partial use of the waters.

Looking to this general classification alone, it is impossible, even, for the most uninstructed, not to see at once, that nearly two-thirds of the diseases which man, in his civilized state, is heir to, under a lingering, chronic, and often painful form, may find relief in the use of the waters of this Spa; and the reports of all the medical men who have practised at Carlsbad, or have sent patients thither, or have, like myself, visited the place for information, are replete with examples illustrative of the truth of this assertion.

My own experience warrants me in commending the Carlsbad waters in all obstinate cases of induration, tumefaction, tenderness, and sluggish action of the liver; in obstructions of the glands of the mesentery, and in those engorgements of the spleen and distended state of the splenic vessels, which are much more common (as I proved in another publication) in females, especially of the better classes, than medical men appear to be aware of." 52.

We have now before us a little work on the Carlsbad Waters written by Dr. De Carro an experienced physician, who visits this Spa annually, and whose authority is paramount on the nature and agency of the waters. We make no apology for leaving Dr. Granville for a moment, to introduce the sentiments of the German Physician.

"Soda, as we have seen, being the principal ingredient of our hot springs, their effect can mostly be attributed to that alkali, whatever may be the auxiliary action of their other constituent parts, some of which, discovered later, are in exiguous quantity.

Soda acts with energy on the animal economy, and has a hurtful influence on the arterial system, disposes to hemorrhagies, to scurvy, and disturbs digestion. The Carlsbad water, on the contrary, during the longest cure, animates and vivifies, excites appetite, promotes digestion, and united to proper regimen, favours the return of health. The difference between the effects of pure soda, and those produced by our waters, cannot be otherwise explained than by the union and combinations of that alkali with their subtler parts, such as the oxide of iron, the carbonic acid gas, and the new ingredients, found by Mr. Berzelius (without speaking of those which may perhaps be hereafter discovered), and particularly by their high temperature, which, volatilizing those constituent parts, so wonderfully united and combined together, conveys them, by the finest ramifications, to the last extremities of our organism, imparts to them a vivifying power, and deprives them of their hurtful qualities. David Becher, whilst drinking our waters, found Carlsbad salt in his own urine, and some drops of his perspiration, gathered upon a watch-glass, examined with a strong microscope, showed, during their evaporation, crystals similar to Carlsbad salt.

It is undoubtedly as difficult to tell by what process alkaline water separates, moves and eliminates morbid matters, as to understand how mercury, introduced by the stomach or the skin, frees the animal economy from inveterate syphilitic affections. Without attempting a methodical solution of this problem, one can conceive how an alkaline substance, reaching, more or less slowly, the last ramifications of our secretory and excretory organs, produces effects not to be expected from coarser medicaments, administered only in small doses, such as antimony, gums, soap, ox-gall, vegetable juices or extracts. Whoever has experienced at Carlsbad a regular crisis, will never more question the power of its waters, the revolution they cause in the whole system, nor the artificial disease excited by such perturbations. The Germans call it, very properly a *Bad-Strum* (bath-storm).

This hot water occasions neither nausea nor vomiting; it has an exciting

action on the stomach, the bowels, kidneys, liver, and other abdominal organs, of which it augments the secretions and excretions. Its action upon the alimentary tube produces a purgative effect; it acts particularly on the blood-vessels, creates often orgasmus and palpitations, and drives the blood to the head. It increases indirectly the activity of the lymphatic system, and it only begins to be tonic, after having brought on secretory and excretory effects. Such are the characters distinguishing Carlsbad from the more chalybeate and gaseous waters, which are more directly tonic.

Abundant purgation is not indispensable to the success of the treatment, and, in many cases, the best results are obtained by copious urine and perspiration; but that all these effects should be simultaneous, is still more desirable. At all events, costiveness should be obviated, and, with that view, we recommend a few additional drachms of Carlsbad salt, Püllna bitter water, glysters and the like.

These various modes of operation have always determined and regulated the use of our waters, and given them the first rank among the remedies commonly called *deobstruent* and *alterative*, in innumerable disorders, proceeding from stagnation and obstructions of the blood-vessels, or of the organs copiously provided with them, from which a variety of abdominal complaints can arise, such as weakness of the stomach, heart-burn, acidities swelling, eructations, costiveness, which, complicated with derangements of the nervous system, obstruct the liver, the spleen, the mesentery, the epiploon, produce biliary concretions, jaundice in all its degrees, hypochondriasis with its visions, fluent and blind piles, head-ache, vertigo, and all sorts of arthritic, herpetic and urinary complaints.

Hypochondriacal affections appear no where under more various forms than at Carlsbad; and the misanthropic and pusillanimous feelings of those unfortunate beings, passing, without known motives, from hope to despondency, from moroseness to exaltation, deserve the greatest indulgence and sympathy. When we see so many hepatic and splenic patients whose temper depends entirely on the state of their abdominal functions, we feel disposed to forgive the materialism of the ancients who placed the seat of so many passions in the liver; we remember unwillingly the *Fervens difficili bile tumet jecur*, the *jecur ulcerosum* of Horace, as synonymous of *jealousy* and *violent love*, and we understand how they could say that men *splene rident, felle irascunt, jecore amant, pulmone, jactantur, corde sapiunt*.*

But to return to Dr. Granville. We were rather surprised at a passage which we met with in page 54 of the second volume, respecting the powers of the Carlsbad waters to resolve *adhesions* of the pleura. The only authority quoted in corroboration of this curious fact (if it be a fact) is the facetious Lord Alvanley, whom our author found one morning sipping the Sprudel, and who assured Dr. G.

“That he had tried it for three seasons, and had, through it, lost a pleuritic adhesion under the *sternum*, or breastbone, the consequence of neglected inflammation in the chest, which had annoyed him for a long time, and had resisted all the curative means adopted in England. The complaint used to make him short-breathed in ascending hills, and gave him a sort of sensation of dragging or *tiraillement* whenever he sneezed; all which symptoms have since disappeared. His Lordship appeared to be quite serious, and not as usual, epigrammatic, on this subject.” 55.

* Essay on the Mineral Waters of Carlsbad. By the Chevalier J. De Carro, Prague 1835.

We suspect that his Lordship's *adhesion* to good eating and drinking was the cause of shortness of breath in ascending hills, and the *tiraillement* when sneezing, rather than the adhesion under the *sternum*. But let that pass. There are other miracles of the Carlsbad waters. Dr. Bigel, of Warsaw, had a large calculus in his bladder, and was operated on, but unsuccessfully, by the lithotritists of Berlin. He repaired to Carlsbad, where the waters "smoothed, diminished, and, lastly, expelled." the fragments of stone. This gentleman is a HOMEOPATH in every thing but Carlsbad waters, in which he is an ALLOPATH.

MARIENBAD.

We must now shift the scene (some 30 miles from Carlsbad) to the celebrated Kreutzbrunnen, a spa whose medicinal agency has been lauded to the skies, especially by Dr. Heidler, who pronounces it to be "a panacea in all chronic complaints, but particularly those of the digestive organs." Such reputation can only be founded on MONOMANIA, or something worse in the Doctor, or insane credulity in the patients. No sane man can believe in such universal efficacy, whatever may be the agent. Dr. Heidler allows hardly any virtue to the waters of Carlsbad, while De Carro and others have the same opinion of their own panacea, and the comparative inefficacy of Marienbad!

All the waters of this spa are cold, and issue from a peat or marshy soil, or from fissures in the solid granite. They contain free carbonic acid gas, giving them a tartness that disguises, in some degree, their natural saline taste. They feel cold to the stomach, and affect the head like champagne.

"I again drank a glass of the cold water, as I had done the day before. It felt uncomfortable to the stomach for a short time, but walking removed that feeling. Its taste is pleasant and *piquant*. I then mixed it with an equal quantity of the same water heated in stone jugs over a charcoal fire, kept on purpose close at hand. The temperature of the mixture was at first 90°, going down rapidly to 84°, ere I could exhaust the glass. The taste then was exactly like that of veal broth, clear of fat, and with a little salt in it—very pleasant! After the prescribed walks, I again quaffed a second and a third, and, lastly, a fourth goblet of the same mixture, *bien entendu*, on an empty stomach. Dr. Heidler, who was at his post, conversing with and consulted by every one who approached the spring, and to all of whom he had some pretty *rien* to say,—was watching my progress, and my simultaneous examination of the spring and its temperature. He at length came to me, and advised hot mineral water to be added, until the mixture had acquired, by my own thermometer, the temperature of the Sprudel at Carlsbad, so that I could scarcely swallow it. The water had lost, then, the pleasant *goût de bouillon*, and had acquired a stronger, more sapid, more saltish taste, somewhat astringent. Great emission of the gas, or eructations, followed; but the head remained clear, and the digestive organs *still*. The addition of the heated to the cold mineral water instantly destroys its limpidity, and it assumes a gruelly appearance. Ere I quitted the terrace, I had disposed of ten glasses, each containing perhaps six ounces of water. After such a performance, I proceeded to breakfast, with what appetite I could; and *mum* as to the result. A solvent effect of the water had been required for four days by the patient, who is not generally fond of, nor constrained to use, his own physic while travelling."

We have already alluded to the unbounded reputation of this water in

disorders of the digestive organs. It is diurectic and purgative in the quantity of from four to eight beakers, or six-ounce glasses. Dr. G. thinks it more efficacious when heated:—

“On the action of the heart and the pulse this water exerts considerable influence. At first it seems to disturb both; but as soon as its effect on the intestines is established, that disturbance ceases, and a well-being ensues, which is not readily obtained from the daily use of ordinary drugs. This property of the *Kreutzbrunnen* renders it susceptible of application in cases where either the constitution or the age of the patient admits of no remedy productive of irritation; and therefore, persons subject to apoplexy even, or such as are threatened with consumption of the lungs, may take the *Kreutzbrunnen* mixed either with hot mineral water or milk, for the removal of those disorders.” 129.

Our author in the above, and in many other places, uses rather loose language for the sake of the general reader. Thus a person *subject* to apoplexy, means one who has often had the disease. We would not say that a man was *subject* to winter-cough, for example, unless he had had the complaint during several Winters—and so of hæmoptysis, or any other disease. Surely Dr. Granvilln would never recommend the Marienbad waters, which act like champagne on the brain, to a person who had had apoplectic attacks. The word ought to have been *predisposed*; but even in case of predisposition, we should be very sorry to prescribe these waters, or any of the kind. Dr. G. has much confidence in these waters in amenorrhœa at least we conjecture that this is the affection he alludes to, though the language is so very refined that it is tinged with the obscure. “On several of the affections *peculiar* to the female constitution, the influence of the Kreutzbrunnen is well marked and indisputable. A noble lady, the Marchioness of—, who was still at Marienbad during my visit, and Mr. C—, may testify to this fact.” Quere, What fact? The Marchioness and Mrs. C. may have laboured under menorrhagia, amenorrhœa, sterility, ovarian dropsy, scirrus uteri, or many other *affections* peculiar to females; but we are left entirely in the dark as to which of these affections the fair witnesses could testify to. Whether the following passage will throw any light on the subject, we will not say:—

“I consider the water of three of the springs at Marienbad to be sufficient for the removal of most of the disorders of this class;—that of the first by acting as an expurgator and solvent; of the second by giving tone to vessels hitherto lax or paralyzed; and of the third by forcing, as it were, nature into a proper performance of its functions, after the removal of disease. But each case must be well studied, and care taken that the patient understands the manner, as well as the object, of the treatment.”

Dr. G. does not consider the waters of Marienbad as adapted for gouty or rheumatic patients. The Kreutzbrunnen is, in his opinion, tonic and excitant, while it is a powerful solvent. They are ferruginous and saline. As to Dr. Heidler, the medical oracle of the place, Dr. G. considers him, and justly, as an enthusiast—“too blind a worshipper” of the spa to be implicitly relied upon, unless “taken *cum grano salis*” (*Glauberi*, of course), when he may prove a useful guide. We should prefer taking the salts by themselves to taking them with Heidler into the bargain. These waters are often used as baths, generally tepid, when they excite the surface even to redness, when not more than 90°. The most extraordinary feature of this

spa, however, is the gas-bath, a remedy first employed, with happy effects, on himself by Dr. Struve, of Dresden.

"The success of this first attempt having been made known, numerous were the applications of patients for the use of the gas; but as the exposure of the limbs to the column of gas over the *Marienbrunnen* was found inconvenient, the present establishment was erected, in which more than one patient may employ the gas-bath, either generally or partially. For the former, the patient enters a wooden pan or tub, covered with a wooden lid, and sits on a stool perforated with holes, when the gas is admitted through pipes as it issues from the earth. The head is outside, and the aperture of the lid around it is lined with cloth, in order to prevent the injurious effects which the escape of the gas might produce on the head and lungs.

I tried the effect of the gas against my hands and face, as it issued from the earth through a pipe, with as much force as if some one had been blowing on those parts with a pair of bellows. After the first sensation of cold, that of genial warmth followed, and the heat of the part continued for some time after. I received some of the gas into my mouth, and instantly felt the powerful effect of the compound gaseous mixture. My respiration became affected, and three or four darts of acute pain in the head followed." 137.

Marienbad is rising in reputation, and consequently in riches. The *sejour* of royalty, and a sprinkling of German and Russian nobility, give a *ton* to the spa, which, however, is not a place of pleasure, but of health.

EGRA, OR EGER.

This is but a morning's drive from Marienbad. The spring is of the temperature of 53°, Summer and Winter, pervaded every where by gas-bubbles, and limpid as crystal.

"The predominant saline ingredient is the sulphate of soda, or Glauber salt, of which there are twenty-five grains in sixteen ounces of the water, with nearly eight and a half grains of muriate of soda, or common salt, and the same quantity of bicarbonate of soda. The proportion of iron present is a little more than the third of that contained in the *Kreutzbrunnen*, and just one-sixth part of the quantity held in solution by the *Ferdinandsbrunnen* of Marienbad. The whole of the solid contents in the sixteen ounces of water weighs forty-four grains and a fraction." 151.

Dr. Koestler, "instructed me—and that too in the course of a few hours—on every subject of the medical practice at the spa." This was quick work certainly. We know Dr. G. to be an apt scholar, and keen as a razor; but the above instruction amounts almost to intuition. "Diseases affecting the organs of digestion, and those of secretion and excretion, the lymphatic vessels and glands, as well as the mucous membranes, are principally benefited by either water." These two springs are the Salzequelle and the Franzensquelle, between which the greater number of visitors vibrate early in the morning. The Franzensquelle is too stimulating where there is any inflammatory affection or nervous irritability. The Salzequelle is, in such cases, preferable.

"The MUD-BATHS of Franzensbad are, in my opinion, next to the gas-baths, an object of the greatest importance; and they are peculiar to that Spa. This is owing to the particular energy and power possessed by the materials which nature has here presented to the physician, and which in other places—as at

Carlsbad and Marienbad, where the same contrivances have been attempted—are of so inferior a quality, that they will never deserve any serious consideration, whatever efforts my friends, De Carro and Heidler, and their colleagues, may make for that purpose. ‘In a few years,’ observed, to me, Dr. Koestler, as we were coming out of the great bathing-establishment, ‘I predict that Franzensbad will be the most celebrated Spa in Germany, merely on account of its mud-baths. They are specific and infallible in all cases of excessive debility and prostration, particularly in paralysis, of which gout has been the cause. I am willing (added he with great emphasis) and ready to take upon myself all the expenses of any paralytic patient of that class who shall arrive here, and fail to be cured, after a proper use of the mud-baths. When the Toeplitz doctors find that they cannot cure, with their hot springs, patients affected by paralysis, they are glad to hand them over to our mud-baths.’” 160.

Dr. G. afterwards saw a young lady who had arrived at Franzensbad, “with her legs and feet completely paralyzed, and who, after six immersions in the mud-bath, could walk without assistance.” Dr. G. avers, that a mud-bath “made of such stuff as he saw at Franzensbad, is an agent of infinite, indeed of *almost* dangerous power.” The stuff is quarried in a neighbouring field, by means of spades, where he saw a stratum of nearly 20 feet deep, immediately below the turf, lying on a bed of sand. The mass is moist, of a beautiful jet black colour, curiously stratified with thin plates of iron pyrites. This stratum is plentiful for miles around Franzensbad, rendering the whole surface tremulous, like a quagmire. It reddens litmus paper, and it tastes acid in the mouth. The smell is that of sulphureous acid gas. This bog-earth is brought into the court-yard of the bathing establishment, and thrown into two large wooden vats, where it is diluted with hot water from the Louisenbrunn, till it is of proper consistence and temperature for bathing. The temperature is about 80°, and the consistency of the bath is that of a semi-fluid bread poultice.

“It exhales a smell not unlike that of pyroligneous acid, which penetrates the skin to such a degree that many hours afterwards the surface of the body will taste of it. On coming out of the bath, and after having washed the mud off with warm mineral water, the skin feels soft and looks almost like satin.

Dr. Clarus of Leipsig, who has studied these baths, observes of them, ‘that they increase the action of the skin, are solvent as well as emollient, and stimulate the nervous system;’ which effects he attributes to four principal elements found in the composition of the mud: ‘The fatty and peaty matter;—caloric;—the presence of a highly volatile substance;—and lastly, the metallic and saline ingredients.’ When the *boue*, after having been used, is thrown away, it will, in a few moments, exhibit on its surface strata of half an inch in thickness of sulphate of iron and Glauber salt, and present also a large quantity of free sulphuric acid. Unquestionably the *Franzensbad* doctors have, in this material, a most powerful agent at their command, for combating disease with great success.” 164.

But the gas-baths here are, in our author's opinion, more efficient than the mud-baths. A tube is plunged into the ground, and gas instantly issues through it, which being conveyed by a horizontal pipe into a bathing-tub, falls in showers, as it were, upon the ailing part of the body exposed to it under cover. Scrofulous ulcers are said to be quickly healed by this application.

PULLNA, SEIDLITZ, &c.

The waters of Pullna acquire their medicinal powers while standing in the wells. When the latter are first dug, the water is pure and tasteless; after a sojourn of a few days, it is found to contain nearly 90 grains of solid ingredients in the pint; viz. carbonate and muriate of magnesia, sulphate of potash, Epsom and Glauber's salts. No trace of iron is found in the waters of Pullna. This water has a bitter taste, and aperient qualities. The following extract is in Dr. Granville's peculiar style of sentiment.

"About ten years ago, on passing through the neighbourhood of Pullna, heated from a journey of two thousand miles, performed without stoppage by night or by day, and from that habitual state of the body for which I had, like many more of the inhabitants of London, taken bushels of aperient pills, in the preceding years,—I was induced, on principle, to try the effect of the *Bitterwasser*. The result of that trial was, that I recovered my health—conquered my habitual difficulty of digestion—abandoned all pills—have never taken any since—and find it necessary only to drink about two ounces of the Pullna water to keep all straight. But as the real Pullna is not to be had easily in England, and is not very good when one gets it, I had recourse to the artificial one prepared at Brighton, without detecting, either in taste or in its effects, at first, or at any time since, the slightest difference between the natural and the artificial water. The latter I have therefore been in the habit of recommending, with the greatest success, in many cases analogous to my own; and I will be bold to say that, were its virtues better known, and its use more general, we should not hear of half the complaints against those endless pills and draughts for cleansing the bowels, with which most of the medical visits conclude in England." 187.

If, as is threatened, a fountain of Hygeia should be opened in the Regent's-park, the Company in Bridge-street may shut up shop? Dr. Struve will not be able to supply the metropolis with Pullna water, even if the New River be turned in under the portals of the Colosseum.

The Seidschutz is near Pullna, and is "an effectual purgative," and "may be substituted with effect for many *messes* and *compounds* from the apothecaries' shop, in cases of obstruction and slight attacks of hepatic disorders." It contains the slightest trace of iron, and the solid contents of a pint amount to 130 grains.

As for the SEIDLITZ waters, we need not dwell upon them, as their imitation (Seidlitz powders) are familiar to all. The *real* Seidlitz, however, is bitter to the taste, whereas the imitation is acid. The former contains Epsom salts, the fictitious none. Nevertheless, the said Seidlitz powders are very useful and pleasant aperients.

TOEPLITZ.

This is essentially a bathing-place. The waters are at a temperature of 122°. They are taken internally also, for suppressed gout, chronic rheumatism, &c. They contain much carbonate of soda—and also of iron, which is deposited as the waters cool down.

"With proper management I should not despair of recovering from all his ailments, the most pitiable object of gouty tyranny."

This is a bold assertion, and we doubt not that if Dr. G. can realize only half his promise, he will soon be the richest physician in this metropolis.

"The scene that presented itself on entering the bath of the men, as well as the separate one of the women (both of which were *quite full*), under the guidance of Dr. Bischof—who insisted on my doing so, and who quieted the incipient alarm of the ladies, by exclaiming that I was *only* a doctor,—beggars description. The heat of these baths was 113°, and the steam almost prevented a distinct view of the objects in it. Still I could perceive that both the men and the women, who were bathing, had been cupped on, or had had leeches applied to their backs, their shoulders, or their chests, and that blood was streaming from the wounds, fresh and free, into the water. These poor creatures, who have all an equal right to use these baths gratuitously, cannot enter the water, on account of its great heat, without first losing blood, or they would expose themselves to serious accidents. Some were lying down in the water; others standing up; a few were playing and gamboling about; while many were engaged in rubbing one another. In both the baths, the greater number of the men and the women were stripped of all clothes; but a few wore a small handkerchief round their waists. The whole spectacle reminded me strongly of those fiery pictures of "le anime nel purgatorio," which one meets at the door of almost every church in Italy, over the begging or alms-box." 199.

LEIBENSTEIN.

This is rather a celebrated spa, situated near Meiningen, the birth-place of our Dowager Queen. The waters contain a considerable portion of iron, being about a seventh part of the whole solid contents—fourteen grains in the pint. The other matters are slightly aperient. "It is heating to excess, over-exciting and bending, and likely to produce eruptions." Dr. G. thinks "it resembles in its effects that heterogeneous compound, commonly called GRIFFITH'S mixture." If this be the fact, we have little hesitation in saying that LEIBENSTEIN is one of the most valuable spas in Germany. It is mostly used as a bath, the temperature being about 50°, raised up by additions to a proper heat.

KISSENGEN.

This spa is rising fast in reputation. It is only a day's journey from Liebenstein, and seventeen German miles from Frankfort. Dr. Maas is the medical superintendent. The most famous spring is called the RAGOZI, lately discovered.

"The Ragozi enjoys already an European reputation. It emerges from a depth of twelve feet, through rounded pebbles and basaltic stones, at a temperature one degree higher than that of the *Maxbrunnen*. Its taste is sharp, strongly saline, and acidulous, with a smack also of a saline, bitter, and rough vitriolic nature. It reminded me of the stronger chalybeate water near Rosenstein, at Stuttgart. Nor is it surprising that it should so taste, seeing that it contains nearly three-quarters of a grain of carbonate of iron in sixteen ounces. When the Ragozi is found to affect the head, the glass filled with it, is previously immersed into hot water, so as to allow the greater part of the gas to escape. If, after this, the Ragozi should still be found to affect the head, then the *Paudur* is to be substituted for it. But to the prolonged use of the latter spring Dr. Maas objects that it weakens the stomach." 289.

The solid contents of a pint of this water are ninety grains. It is considered a panacea for chronic diseases. It is "gently purgative, depurative, and alterative."

"Judging, *primâ facie*, from such a circumstance alone, I should expect the

very best effects from the use of the *Ragozi* in every possible modification of complaints of the stomach—from the mere want of appetite and oppression after eating, to the most complicated derangement of the various abdominal processes which constitute digestion. I will only instance, as an example, the nausea and retching (first indications of forthcoming disease) which salute the overnight-tippler when he first wakes in the morning. Half a glass of the *Ragozi*, taken immediately on waking, will arrest those symptoms," 291.

The *Ragozi* removes impurities from the intestinal tube, while it gives tone to the stomach and bowels. But it is in sterility that Kissengen has acquired great reputation. There is another class of invalids who are said to derive much benefit from Kissengen, "hard livers"—such as have a hard liver from having lived hard." Some remarkable instances were related to Dr. Granville by Dr. Maas, where livers as hard as stone had been softened down by the Kissengen waters. These hard-liver stories, however, are to be swallowed, *cum grano salis*.

We now proceed to the spas of Nassau—nor shall we dwell long on waters which have become so well known through the medium of the "*old man of the Brunns*." FACKINGEN and GEILNAU, on opposite banks of the river Lahn, were the first two places visited by our author. The water of Fackingen is supposed to be the strongest alkaline water in Germany. But it is little frequented. Geilnau is of lower temperature than the Seltzer waters, but is nearly the same in composition, as to solid contents, and contains much more carbonic acid. Great quantities of these waters are now exported to other countries.

WEISBADEN.

This is the capital of Nassau, distant only two stages from Frankfort, and delightfully situated in a beautiful valley of the Tanus mountains. The Weisbaden waters have been justly compared to weak chicken broth slightly salted—but not quite so nutritious. They emit an odour not unlike that of lime while in the act of being slacked. Here, as at Baden Baden, the mania of gambling rages in a fierce degree!

"One of the principal effects to be noticed in using the mineral water at Weisbaden, is the great change that supervenes in the state of the skin. From being dry and ruvid, it becomes moist and soft. Sometimes only a little redness of the skin, at other times a slight eruption, ensues, in the course of bathing; and through this series of simple phenomena alone, many chronic disorders have been cured.

If a patient bathes for old gouty and rheumatic pains, he will often find them increased first, and become more intense; his walk will be more difficult, the joints more stiff, the muscles exceedingly sore. In eight or ten days these symptoms will disappear, and recovery will follow after the full course of the waters.

The appetite and functions of the stomach are generally augmented after a few baths. The action of the intestines is sufficiently promoted by the proper and internal use of the water. The Weisbaden water is held, with some justice, to be of a purgative quality. When the baths have not been injudiciously recommended, sleep is generally improved by them, it becomes uniform and regular, and is not disturbed by dreams. The result of such a regularity is an augmentation of vital energy in the patient. It is, however, of the utmost importance, not to allow sleep to overcome the patient while in the bath. When it does so, further bathing would be a source of danger, without properly consulting a physician upon that point. Such a sleep, to say the least, is suspicious, and is

generally accompanied by a heavy and full pulse, as well as by a tendency to giddiness.

In cases of paralysis I found the baths of Weisbaden of an efficacy nearly equal to that possessed by Toeplitz. A very remarkable case of recovery from a total suspension of the faculty of moving the limbs, unconnected with any rheumatic affection, came under my notice three years ago; Dr. Peez related to me several other diseases of a similar kind.

The internal use of the *Kochbrunnen* or of the *Schützenhof*, will be found very successful—much more so than Cheltenham or Leamington—in all cases of congestion, fulness, and obstruction in any of the abdominal viscera of both sexes. The baths must in all these cases be combined with the internal use of the water, and if the subject be a female, the necessity for bathing is still more urgent." 417.

The waters of Wiesbaden are supposed to be almost specific in hypochondriacism—a picture of which is presented by Dr. Granville. The water is drank early in the morning on an empty stomach, in the quantity of four to six tumblers. Breakfast follows half an hour after drinking the waters, and bathing half an hour after that meal. This is a practice which cannot be good, if the waters united all the good qualities of all the mineral springs in the earth. The breakfast here recommended can hardly deserve the name—"a cup of coffee or chocolate, with milk, or a basin of soup, with the yolk of an egg, will be sufficient." This is a "baberwash" breakfast indeed!

From Wiesbaden, our author proceeded to the far-famed

SCHLANGENBAD,

Or serpent bath, immortalized by the "Old Man of the Brunnens."

"The Schlangenbad water is said to soften the skin. It does so only like any other water in which the larger proportion of its saline ingredients consists of carbonate of soda and magnesia. Such is the case with the Schlangenbad. The notion that this peculiar quality of the water is due to the animal matter derived from the snakes, or say rather little vipers (for they are nothing else), is absurd; for after the most scrupulous analysis, no traces of animal matter can be detected in the water." 446.

"This water contains in every pint three grains of carbonate of soda. If we suppose, therefore, a bath to consist of seventy gallons, or 560 pints of the water (taking it for granted that all the water supplied is genuine), it will hold, in solution, exactly three ounces and a half of carbonate of soda; besides which it will contain nearly an ounce of carbonate of magnesia. Now let my fair readers (if I should be fortunate enough to have any) cause an equal amount of those two saline combinations to be dissolved in their tepid baths, and I will answer for the consequences, as far as the lubrication and satinization of their skin are concerned. But with regard to the promised delight from the baths at Schlangenbad, neither their natural temperature, nor their composition, could be expected to induce any such feeling. The sensations experienced in them appear to me to amount to no more than the natural sense of comfort, generally felt in summer, upon entering a tepid bath. In conclusion, when I set myself to compare Schlangenbad with other thermal springs, and especially with Wildbad, I frankly confess that I felt great disappointment at the result of my enquiries." 448.

The medicinal virtues of the Serpent water, when swallowed, are so slight that we need not even mention them. Thus vanishes the cosmetic reputation of the Schlangenbad! The "Bubbles," however, of Nassau, have proved a *sovereign* beautifier of the sexagenarian author, and, like a dip in Medea's

cauldron, have made a *young* man of him—a knight—Poor-law Commissioner—Lieutenant Governor—Baronet!

SCHWALBACH.

There are three springs here. The water in all of them is clear as crystal, slightly bubbling, and of pleasant acidulous taste. They are all chalybeate, and unite with the taste of iron that of acidulated Seltzer water. It lies heavy and cold on the stomach, especially the Wemenbrunnen. We need not dwell on the wondrous cures performed by these waters.

"My experience distinctly authorizes me at the same time to declare that the worthy *inspecteur des eaux* has carried the list of ailments which the Schwalbach waters are said to cure, beyond even the limits of credulity. That list reminds one of the printed envelopes put around that celebrated cosmetic which owes its birth to the filthiest and most offensively smelling city in Europe." 70.

By this we suppose Dr. G. means Cologne, which is certainly a dirty town, though by no means so malodorous as some cities of classic Italy. Sir F. Head, however, has driven the French and German families "slick right away" from Schwalbach, and colonized the Spa with some 3000 British visitors annually!

EMS.

This Spa, Dr. G. thinks, is in a false position, not only as a place of residence in the Summer, but as regards the "true point at which the mineral sources ought to have been converted to use." This Spa, so much frequented by the English, of late, is not held in much estimation by our author.

"In fact, I may state it at once and openly, that Ems is half a century behind every one of the Spas of the first class that I have seen in Germany and described in the present volumes." 502.

The principal drinking springs are the Kraenchenbrunnen, and Kesselbrunnen. The temperature is about 24° of Reaumur.

"The water is clear and has no smell. A considerable quantity of gas escapes on taking up the water with a glass. According to Struve, a pint of sixteen ounces contains fifteen and a half cubic inches of free carbonic acid. The taste, which is gently sub-acid, and milk-warm at first, is succeeded in the mouth by one of an alkaline and soapy nature, which arises from a large proportion of carbonate of soda being left behind, quite insulated, by the evaporation of the gas. The place in which the water is drunk is not calculated to inspire the patients with any cheering thought of future recovery. It is, moreover, so confined that no more than three or four persons can approach it at the same time conveniently." 503.

The bath, Dr. G. avers, occasions at first, a sense of lassitude and drowsiness—next, relaxation of the pores—and lastly a red efflorescence on the skin, called the *bath-itch*. The waters have very little aperient effect, and English patients generally fly to purgatives, in conjunction with the waters.

"This habit of taking aperient medicines so prevalent among English people, astonishes all foreigners on the continent, who are still more astonished when they visit England, and see, or are told of, the basketsful of drugs which enter, almost daily, a gentleman's house in London. One of these foreign visitors asked me one day the reason of such a practice, and of the difference which existed in that respect between the English and continental nations. In answer

I pointed, as we were walking along, to the juicy barons of beef on the butcher's shambles; to the white square loaves of the bakers, with alum and lime in them; to the scantiness and high prices of the *legumes* in the markets; to the fiery port and sherry proclaimed at the door of wine vaults; to the XXX and Burton ales; to the Whitbread entire and Guinness stout; in fine, to the smoke and atmosphere of London adding, that the fashion of pills and draughts' taking in England, after all, was of the upper and better classes of society only; and by no means to be observed among the multitude." 500.

Dr. Kreysig avers that these waters have been very useful in pulmonic complaints—nervous debility—female complaints—indigestion. Our author, as was said before, has no high opinion of these waters, though he has often prescribed them. He considers them as alteratives rather than aperients—as “disturbing waters”—which rarely cure diseases till some other Spa has been resorted to. We have lying before us a little work on the Waters of Ems by Dr. Thilenius, in which a very different account of this Spa is given. Taking the Doctor's statements “*cum grano salis*,” we would still be inclined to attach some importance to these waters.

The disturbance of the nervous system, caused by these waters, is attributed by Dr. Granville to the large quantities of soda which they contain. As much as a drachm of this alkali is taken in the usual morning dose of the Ems Spa. The air of the narrow valley, too, in which the Spa is situated, cannot be very conducive to health.

“Hence Ems can never suit an hypochondriac, no matter from what functional disorder his unhappy state may arise. It never can suit persons labouring under any modification whatever of disease of the heart, whether structural or merely functional. It never can suit such females as have been suffering from repeated losses, have become blanched, weak, and shaky, and whose head feels heavy yet light, confused yet empty, always on the *qui vive* yet oppressed;—an anomalous condition, inexplicable on any known physiological principle, yet nevertheless too true—as those who have exercised for twenty years the particular branch of the profession I exercised in London, until within the last four years, can readily testify.” 512.

This last expression has rather surprised us, as we thought Dr. G. was as deeply immersed in obstetric practice as he ever was.

We must now bring our article to a close, having, as carefully as possible, gleaned from these volumes the chief professional information which they contain. Nine tenths of Dr. Granville's pages are occupied with anecdotes, personal narratives, descriptions of scenes, localities, men, manners, &c. Into these we dared not enter, though they will be greedily pursued by general readers. We would advise Dr. Granville, in a new edition, to leave out a great deal of merely temporary matters, and to condense the two volumes into one, so as to make the work a stock-book, or, as we said before, a **STARK-BOOK** for Spa-tourists in Germany. The extracts which we have taken from the work, will shew that Dr. Granville writes in a light, pleasing, often humorous style—not always free, however, from a little spice of self-importance, which some ill-natured critics might be tempted to characterize as vanity. This is so venial a fault, that it is scarcely worth notice. If he will take the hint we have thrown out, respecting condensation in a second edition, we venture to aver that he will not have cause to complain—

—————*Dum brevis esse laboro*
Obscurus fio.

ON VEGETABLE MORPHOLOGY.

I. AN INTRODUCTION TO BOTANY. By JOHN LINDLEY, F.R.S., L.S. & G.S., &c. Second edition, London, 1835.

II. NOUVEAU SYSTEME DE PHYSIOLOGIE VEGETALE ET DE BOTANIQUE. Par F. V. RASPAIL. 2 Tomes. Paris, 1837. Bail-
liere.

IN the last number of this Journal, we attempted to explain some of the most interesting and instructive laws of Philosophical Anatomy, and to point out and illustrate that wonderful harmony of developement, which exists not only in the different parts and organs of the same animal body, but also in these parts in the different classes of animals, from the more simple up to the most complex of the scale. We then endeavoured to shew that most of the anomalies or congenital defects of formation are truly and strictly mere *arrests* of the process of evolution; that the part or organ so affected had been interrupted and stopped, as it were, in its progress to maturity; and that thus it exhibited that appearance or structure which is normal to the fœtus at a certain stage of its intra-uterine existence, but which is abnormal, or anomalous to it, after birth. Guided by the celebrated law of Centripetal Developement, we found ourselves enabled to account most satisfactorily of very many of these malformations, the nature and origin of which had hitherto been quite inexplicable. We then proceeded to illustrate the striking analogies which may be traced between the embryotic and early fœtal organization of the higher animals, and the mature or normal developement in animals, lower in the animal scale; and having, we hope, established the truth of these analogies, we were prepared to trace the resemblances between the congenital malformations of the human fœtus and the natural organization of many of the lower animals.

The last section of our inquiry was devoted to the investigation of the curious, and hitherto ill-understood subject of Hermaphroditism. We found that most of the bizarre irregularities of the generative organs, included under this appellation, are strictly obedient to the laws above mentioned; that very many of them are beautifully illustrative of M. Serres' great discovery of centripetal formation; and that others find their exact prototypes, in the normal structures of animals lower in the scale of developement.

It has occurred to us that it might be interesting to the philosophical reader to have his attention directed to the corresponding departments of Vegetable Anatomy; and with this view we now propose to devote a few pages to what has been called Morphology, or that subject of botanical research, whose object is to trace the phenomena of the developement of different parts of plants, and to search out the laws which these phenomena seem to obey.

It has been supposed that the higher and more complicated forms of vegetables pass, during their growth, through successive stages or phases of developement, and that each of these stages represent, as it were, and may be compared to, the permanent and mature forms of those plants, whose organization is more simple. If we examine the structure of some of the simplest cryptogamous plants, as the tribe of fungi or mushrooms, we find

that it consists entirely of an aggregation of vesicles or minute cells, there being no, or only very indistinct, traces of a fibrous or vascular texture. Now the same holds good of the minute anatomy of the seed, before it has begun to germinate. It is strictly and truly of a cellular structure; and we find no obvious traces of vessels in it, until the germinating process has been fairly established.

Again, an analogy has been traced between the structure of the embryo plant, when it has just forced up its plumula above the surface of the ground, and the structure discoverable in mosses; and, lastly, at a more advanced period of growth, when the proper leaves of the plant are first formed, but as yet no attempt at the formation of flowers or seed has taken place, we discover a resemblance to the structure of the ferns—the highest in the family of cryptogamic plants. It is proper, however, to observe, that considerable obscurity still rests on some of these speculations; but certainly, even if we had not the direct researches of such accomplished botanists, as DeCandolle, Agardh, and others, to warrant the above conclusions, a strong presumptive proof in their favour is afforded by the splendid discoveries in the corresponding department of animal anatomy.

After these brief prefatory remarks, we now approach the subject of vegetable Morphology; and in order to make our descriptions as easily intelligible as possible, we propose to trace very shortly the process of growth of a perennial plant, from the early germination of its seed to the production of its stem, branches, leaves, and flowers.

When a seed is placed in moist earth, at a temperature above the freezing point, it speedily begins to imbibe moisture, and then gradually softens and swells out in all directions. It absorbs oxygen, gives out a portion of carbonic acid, and the fecula or starch, hitherto its chief constituent, is by degrees converted into saccharine matter—the proper nutriment or food of the vegetable embryo at this period of evolution. The radicle and the plumule are gradually protruded; the former descending and taking root in the earth, and the latter rising up above the surface of the ground, and carrying along with it the two cotyledons, which, after certain changes, assume somewhat the appearance, and also perform the functions—the aëration and elaboration of the sap—of the future leaves. At this stage of vegetable growth, the structure of the young plant has been found, as already mentioned, to be almost entirely composed of cellular tissue, the fibrous and vascular tissues being as yet but very imperfectly formed.

The plumule or nascent stem rises higher and higher—its growing point having already “acquired the rudimentary state of a leaf, which continues to develop as the plumule elongates, until, when the first internode* of the latter ceases to lengthen, the leaf has actually arrived at its complete formation.”

The leaf, when expanded, performs the part of lungs to the growing vegetable; the sap, as it circulates through it, is exposed to the action of the air, and is thus prepared to form woody matter, which is then gradually

* The point of a stem or of a branch, from which the leaves arise, is called a *node*; and the space between any two of these points is called an *internode*.

deposited between the bark, and the medullary sheath or the membrane investing the pith.

Other leaves are successively formed at the point of the stem, as it grows upward; and this process continues to go on, until at length the stem ceases to lengthen. Then we discover that a new change takes place in the vegetable economy.

"The old leaves gradually fall off; the new leaves, instead of expanding after their formation, retain their rudimentary condition, harden, and fold over one another, so as to be a protection to the delicate point of growth; or, in other words, become the scales of a bud. We have now a shoot with a woody axis, and a distinct pith and bark, and of a more or less conical figure. At the axil of every leaf a bud had been generated during the growth of the axis; so that the shoot, when deprived of its leaves, is covered from end to end with little, symmetrically arranged, projecting points, which are the buds." 237.

On the return of the genial weather of Spring, the buds, which had been formed during the previous year, begin to expand and unfold, in consequence of the movement upwards of the fresh sap, which has been absorbed by the roots. The growing point of each bud advances and lengthens out in the direction of its own axis, and thus gives birth to a young twig; this, as it pushes forwards, forms leaves and buds, just in the same manner as we have described to take place on the parent stem during the previous year.* Each twig or branch is in every respect a type and repetition, as it were, of the stem from which it grows. Their structure is the same; their manner of growth is the same; and their mode of propagation is the same. Hence it has been very happily remarked that "plants develop themselves out of themselves progressively."

While the buds are sending out their shoots, and while these are covering themselves with fresh leaves and with embryo buds in the axils of the leaves, the deposition of ligneous matter is constantly going on, from the bases of the leaves and buds, between the bark and the wood of the preceding year. In this manner the second ring of wood is formed. It is of importance that this process of the deposition of woody matter be well understood, as many errors have been committed on this subject by vegetable physiologists at different times. It is now almost universally admitted that the young wood is formed and deposited from the bases of the leaves, by the sap returning along their petioles, after it has been exposed in their blades to the vivifying action of the air. From this account it follows, that *ceteris paribus*, in proportion as the foliage of a plant is abundant, so also will be the formation of new wood; and that the number of strata or annual circular deposits in a branch must always be greater at the lower (nearest the trunk) part of an old branch, than its upper or growing extremity—because, as explained above, there has been a new layer or deposit each successive year, at the period of foliation in the Spring months.

* It thus appears that each bud may be considered as a distinct and independent point of formation, and that it is in fact the rudiment of a shoot, which will be developed in the succeeding year. Hence the more buds which are formed on a plant one year, the more abundant will be the growth of branches next year.

Having thus briefly considered the development of the leaves, buds, and branches, it now remains to explain the very curious and interesting subject of the inflorescence or production of the flowers of a tree. The following description from Lindley is so excellent, that we shall present it in the author's own words:

"After a certain number of years the tree arrives at the age of puberty: the period at which this occurs is very uncertain, depending in some measure upon adventitious circumstances, but more upon the idiosyncrasy, or peculiar constitution of the individual. About the time when this alteration of habit is induced, by the influence of which the sap or blood of the plant is to be partially directed from its former courses into channels in which its force is to be applied to the production of new individuals rather than to the extension of itself;—about this time it will be remarked that certain of the young branches do not lengthen, as had been heretofore the wont of others, but assume a short stunted appearance, probably not growing two inches in the time which had been previously sufficient to produce twenty inches of increase. Of these little stunted branches, called *spurs*, the terminal bud acquires a swollen appearance, and at length, instead of giving birth to new leaves, produces from its bosom a cluster of flower-buds, or *alabastri*, which had been enwrapped and protected from injury during the previous winter by several layers of imperfect leaves, now brought forth as bracts. Sap is impelled into the calyx through the pedicle by gentle degrees, is taken up by it, and exposed by the surface of its tube and segments to air and light; but, having very imperfect means of returning, all that cannot be consumed by the calyx is forced onwards into the circulation of the petals, stamens, and pistil. The petals unfold themselves of a dazzling white tinged with pink, and expose the stamens; at the same time the disk changes into a saccharine substance, which nourishes the stamens and pistil, and gives them energy to perform their functions." 241.

The impregnation of the germen by the pollen of the anthers then takes place; and, when this has been completed, the petals—whose primary use is to enclose and defend the tender organs within—and stamens fade and gradually fall off. All the sap, therefore, which had been directed towards the flower is now expended upon the young fruit, until it attains perfect maturity. Then a new series of changes begins. The sap, which in the Autumn is much less abundant, and more inert in its current, than it had been during the Summer and Spring months, ceases to flow through the peduncle to the ripe fruit. The consequence of this change is, that the peduncle or stalk withers, and at length breaks across either from the weight of the fruit, or from the agitation of the wind; and thus the seeds, enveloped in their moist and fleshy coverings, are committed to the earth, there to remain, until quickened to germination on the approach of the following Spring.

Such is a brief account of the series of phenomena to be observed in the development of the higher tribes of plants, from the germination of the seed to the period when they form seed of their own, for the propagation of the species.

The most incurious observer cannot fail to admire the beautifully simple means which Nature appears to employ to effect these wonderful changes; and thus the mind is gently, but most irresistibly led to the animating conclusion, that all is formed, and sustained, and regulated by One great Mind, of Almighty Wisdom and of all-providing beneficence.

We are now prepared better to understand the discoveries of vegetable Morphology, or, to use the words of Dr. Lindley,

"That part of botany which treats of the gradual transmutation of leaves into the various organs of a plant, which shows that bracts are leaves affected by the vicinity of the fructification, that the calyx and corolla are formed by the adhesion and verticillation of leaves, that the filament is a form of petiole, and the anther of blade; and, finally, that the ovary itself is a convolute leaf, with its midrib lengthened into a style, and the extremity of its vascular system denuded under the form of stigma." 524.

To Linnæus belongs the merit of having first clearly announced and illustrated this most curious subject. Dr. Lindley has with great propriety given numerous extracts from the writings of the immortal Suede, in which the metamorphosis of the organs of plants is treated of; and we therefore cannot do better than select a few of these for the gratification of our readers. In the *Systema Naturæ* we find the following expressions:

"Leaves are the creation of the *present* year, bracts of the *second*, calyx of the *third*, petals of the *fourth*, stamens of the *fifth*, and the stamens are succeeded by the pistil." 524.

"Bracts are nothing but leaves which would have been developed another year, if the plant had not flowered." 526.

"The leaves of the calyx are often very small, juiceless, and different from those of the stem, as if scales of buds previous to their developement; but that they still are nothing but leaves of the same nature as those of the stem, must be concluded from this, that when plants, roses, and Geum rivale for example, become, in consequence of excessive nutriment, proliferous, the calycine leaves, which before were small and dry, expand into leaves in size, colour, figure, texture, and substance, exactly like those of the stem. Hence it is not to be doubted, that the calyx and the leaves of the stem were in the beginning alike." 527.

"As the calyx is nothing but leaves, and as each leaf contains in its axil the rudiment of a plant consisting of the rudiments of leaves of a future year, it follows that the petals are of necessity the rudiment immediately within the calycine leaves; the petals, therefore, would have been leaves another year, if flowers had not been produced." 527.

"From double flowers it is apparent that stamens do change into petals and petals into calyx. This is so well known that it need not be insisted on. Now, as from the axil of every leaf arises the rudiment of a plant, and from the axil of the calyx are produced the petals, which are nothing but more tender leaves, and as these petals must have, like other leaves, the rudiments of leaves in their axils, it follows that stamens are so, for they can be transmuted into petals, as the petals can into the leaves of the calyx." 527.

It is uncertain whether Linnæus had satisfied himself of the analogy of the pistil, in point of structure and origin, with the other appendages of the plant. It is, however, most clearly evident from the above extracts, what an enlarged view he had of what may be justly called the philosophic anatomy and physiology of the vegetable kingdom; and we cannot but be surprised at the total neglect into which this most interesting theme of inquiry fell after his death, until Goethe, whose mighty mind had subjected almost every department of scientific and literary research to its sway, re-awakened the attention of botanists, 40 years afterwards, by his celebrated *Essay on the Metamorphosis of Plants* (*Versuch die Metamorphosen der Pflanzen Zu erklären*, 1790).* The subsequent researches of De Candolle,

* The readers of our last number know that to Goethe we owe the discovery of the existence of an inter-maxillary bone in the early human fœtus.

Brown, and Petit Thouars, have beautifully confirmed and illustrated the most important of its conclusions, and have established, beyond reach of cavil, that all the appendages of a plant—the scales, leaves, bracts, calyx, corolla, stamens, pistil and fruit—are only modifications of one structure or organ. The type of this primary structure is the leaf, as very clearly appears from the circumstance that all the other parts have a tendency to become leaves, under certain conditions of growth and cultivation.

We shall now endeavour, very briefly, to prove the truth of this proposition, by a few illustrative remarks, commencing with the *Scales*, or those appendages which, arranged in an imbricated manner, cover and protect the leaf-buds of most trees of cold climates. These scales vary much in appearance in different plants. Thus in the *Beech* they are thin, smooth, and dry; in many *Willows* they are covered with a thick down; and in the well known *Populus balsmifera* they exude a viscid tenacious juice. But however much they vary in appearance and outward characters, their proper nature is invariably the same in all plants. They are, in truth, merely abortive or rudimentary leaves; produced at the close of the season, when the flow of the sap is already tardy, and the vital powers of the plant are feeble and inactive. That such is their true nature is obvious from the gradual transition or metamorphosis from scales to perfect leaves observed in different species of the *Viburnum*, *Æsculus*, *Magnolia*, &c. We refer our readers to Dr. Lindley's work for a more minute description of this change, and proceed to the consideration of the next appendage, the *Stipules*. These are processes which, it is well known, are situated at the base of each leaf-stalk or petiole; sometimes investing it like a sheath, at other times being separate and detached from it.

In pinnated leaves we often find stipules at the base of each leaflet, in addition to the larger one belonging to the common petiole. In reference to their true nature, Dr. Lindley says:

"I am clearly of opinion that, notwithstanding the difference in their appearance, they are really accessory leaves; first, because occasionally they are transformed into leaves, as in *Rosa bracteata*, in which I have seen them converted into pinnated leaves; secondly, because they are often undistinguishable from leaves, of which they obviously perform all the functions, as in the *Lathyrus*, *Lotus*, and many other *Leguminosæ*; and, finally, because there are cases in which buds develope in their axils, as in *Salix*, a property peculiar to leaves and their modifications." 121.

The *Bracts* or *Bractææ*, the next part to be considered, are those (usually) leaf-like appendages, which are situated between the proper-leaves and the flowering bud of a plant. They are very generally smaller than the leaves, and also differ from them in their outline, colour, &c. In some plants they are so like to the segments of the calyx, that it is not easy to distinguish between the two. This resemblance is very great in the *Camelia*. In umbelliferous and compound plants, the bracts and bractlets obtain the names of involucre and involucella. The cup of the acorn is a bract or involucre; so also are the coriaceous envelope of the hazel nut, the scales of catkins, the spathæ of palms, &c. and the glumes of grasses.

We see, therefore, that the appendage, to which the general name of *bract* has been given, assumes a multitude of different forms and characters; but in spite of this, all the best botanists of the present day regard them as

mere modifications of the proper leaves. That such is their true nature is apparent from their assuming in some plants, as in many of the varieties of the rose, the exact appearance of the leaves. It has been thought by some that bracts may be distinguished from proper leaves by their not producing buds in their axils; but Dr. Lindley has clearly shewn the inaccuracy of this objection, by reference to a multitude of examples in which genuine buds are formed in the axils of bracts, as well as of leaves.

We come now to the consideration of the organs of Inflorescence or Fructification—the calyx, corolla, stamen, pistil and germen—and we shall endeavour to shew that these parts also are not to be regarded as formations essentially distinct and independent from each other, but are rather mere modifications of the leaf, in the same manner as the scales of buds, and the stipules and bracts have been proved to be so. We have already stated that when flower buds are formed at the growing extremity of a twig, the growth or extension of that twig ceases; in consequence, it would appear, of the sap being now altogether directed to the development of the future fruit, and of the energies of the plant being diverted “from increasing the individual to multiplying the species.” We are therefore almost *à priori* led to expect an analogy between the parts of a flower bud and those of a leaf-bud; and this conjecture receives confirmation from the well known fact that when a plant, which has perhaps flowered and fruited for several successive years, is transferred to a richer soil and warmer exposure, it often breaks forth into branches instead of producing flowers. Hence arose the remark of Linnæus, “that it appears that branches and leaves can be produced from the provision made for flowers, provided circumstances are favorable to their development.”

With respect to the *calyx*, we might adduce a host of examples to shew that its segments, or sepals, often assume all the characters of the proper leaves of the plant. This is especially the case with what are called double or montrous flowers, in which the stamens and pistils have become converted into petals.

What is true of the calyx is equally so of the *corolla*. Botanists used to trouble themselves with making an arbitrary distinction between these two parts; and numerous have been the attempts to draw the line of demarcation between them by definition.

All such attempts are now admitted to be quite nugatory; and we cease to wonder at this, when we remember that the calyx and the corolla are strictly, and in every respect, analogous to each other in origin and in formation; both being mere modifications of the proper leaf. In many plants it is impossible to distinguish between them; they are alike in form, colour, texture and odour. That the petals of the corolla are occasionally converted into leaves is admitted by all botanists. We cannot afford room to adduce individual examples, and shall therefore haste on to the consideration of the essential parts of fructification—the *stamens* and *pistils*.

That the former are, in point of structure and formation, merely modifications of the petals of the corolla, may be distinctly and very easily traced in the number of plants, especially when double flowers are produced. The following extract from Lindley is very interesting.

“In double roses the precise nature of this metamorphosis is shown in a very instructive way; if any double rose is examined, it will be seen that those

petals which are next the stamens contract their claw into the form of a filament; a distortion of the upper part, or limb, also takes place; the two sides become membranous, and put on the colour and texture of the anther; and sometimes the perfect lobe of an anther will be found on one side of a petal, and the half-formed mis-shapen rudiment of another on the opposite side." 536.

The transformation of stamens into petals is still more conspicuous in double flowers of the common Columbine of our gardens. In some rare cases the stamens have been found converted into green leaves. Roper witnessed this singular phenomena in a variety of the *Campanula*, and *Petit Thouars*, in the *Brassica Napus*.

With respect to the *pistil*, (under which term we include the germen or ovary, as well as the style and stigma,) nothing is more common than to find it converted into genuine petals; as, for example, in double *Narcissi*, *Wall-flowers*, *Saxifrages*, &c. In some plants, the germen is seen to resemble very closely the segments of the calyx; and, in others, a miniature leaf, as in many roses, and more conspicuously in the common double cherry. The exact analogy between the structure of the pistil and that of the proper leaves may be very beautifully traced in the gradual developement of the former part in leguminous plants. Take the pea, for example, and examine its pistil. The young pod is seen to consist of its two laminæ, which are joined together by sutures along their longitudinal edges, and from whose united extremity proceeds the tapering style, terminated by the stigma. The seeds are found to be attached within to one only of the sutures of the pod, and the style is observed to be prolonged or continued out from the other. If we slit the young pod open along the line of the former structure, and then compare it with a leaf of the plant, we shall at once perceive a marked resemblance between these two parts—the seed-bearing suture corresponding to the edges of the leaf, the other suture to its midrib, and the style to its mucro or point.

We must here close this interesting train of enquiry; and we cannot do it better than by giving a short extract from the celebrated Essay of Goethe, to whom philosophical botany is so deeply indebted.

"Keeping in view the observations that have now been made, there will be no difficulty in discovering the leaf in the seed-vessel, notwithstanding the variable structure of that part, and its peculiar combinations. Thus, the pod is a leaf which is folded up, and grown together at its edges, and the capsule consists of several leaves grown together; and the compound fruit is composed of several leaves united round a common centre, their sides being opened so as to form a communication between them, and their edges adhering together. This is obvious from capsules, which, when ripe, split asunder; at which time each portion is a separate pod." 540.

It may be expected, before closing this brief sketch, that we should say something of the works, which appear at the head of the present article.

By the free use, which we have made of Dr. Lindley's Introduction, our readers will have already decided what is our opinion of its merits. It is indeed a work of classical excellence; most accurate, instructive, and pleasing. It is essential for every botanist to have a copy of it beside him. We wish that we could speak quite as highly of M. Raspail's System. It abounds certainly with much ingenious speculation, and contains at the same time a large mass of interesting details. For these reasons it well deserves the

patient perusal of the more advanced students of botany. The following abstract of its contents will shew our readers, what they may expect from its perusal.

The first part is occupied with a description of vegetable nomenclature, and extends to upwards of 100 pages. The second part is devoted to a very minute investigation of what is termed Organogeny, or the developement of vegetable organisation. Had our limits permitted, we should have drawn largely from this section of the work, as the author treats very ably, although rather in too speculative and dogmatic a tone, of the successive steps or processes, by which the evolution of the various parts of a plant is accomplished. Many of his remarks are very ingenious, and the observations and experiments, which he relates, deserve the utmost attention from the philosophical botanist.

The second volume commences with the physiology of vegetable life. The influences of light, water, air, atmospheric changes, soil, manure, &c., not only upon the vegetation of plants in general, but upon each particular organ of a plant, are detailed with great industry. The fourth part considers the various systems of classification, natural and artificial, which have been proposed by different authors; and the fifth and last part explains the practical applications of a correct knowledge of vegetable physiology, not only to the successful culture and propagation of plants, but to various departments of other arts and sciences.

Our readers will thus be enabled to judge for themselves in some respects of this new work from M. Raspail. He is very ingenious in all his novelties; and even his errors announce him to be a man of genius. The accompanying volume of plates deserves the very highest praise; the drawings and engravings are quite admirable. The work is published by M. Bailliere, who seems to be quite the Coryphæus of medical booksellers, and to whom we are generally indebted for all the most useful publications from the Parisian press.

MM. BOUILLAUD AND LOUIS ON TYPHOID FEVER.

CLINIQUE MEDICALE DE L'HÔPITAL DE LA CHARITÉ. Par M. BOUILLAUD. Tome I. Paris, 1837. Bailliere.

ANATOMICAL, PATHOLOGICAL, AND THERAPEUTIC RESEARCHES ON GASTRO-ENTERITE. By P. C. LOUIS. Translated by H. BOWDITCH, M.D. Two Vols. 8vo. Boston, 1836.

THE work, first on our list, is from the pen of that most indefatigable of modern medical authors, Professor Bouillaud, of La Charité Hospital at Paris. It is little more than six months ago since he published an Essay, of some five or six hundred pages, on what he called Medical Philosophy, which our readers will find very copiously reviewed in the number of this Journal for last March. We at that time entered so fully into the merits and demerits of the philosophy of that school, to which M. Bouillaud has

most devotedly attached himself, and of which he is by far the most ardent apostle in the present time—so ardent indeed that he may be fairly said to out-Broussais the great reformer himself; and we gave such an ample and withal so candid, we trust, an exposition of the theoretical and practical doctrines of that school, that it would be an utter waste of time to go over the ground again. Yet nothing short of this would be necessary, if we were to attempt to give an analytic review of this *Clinique Medicale de l'hôpital de la Charité*; for in truth it is only a *riffaciamento* of the contents of the Essay, alluded to above. The ever-recurring themes of the gastro-enteritic origin of continued fevers, of the necessity of repeated venæsections in these and other inflammatory complaints, of the almost constant connexion of pericarditis and endocarditis with rheumatism—these are the subjects on which our author never wearies of ringing eternal changes. A mere glance at the table of contents in the present volume will suffice to convince the reader of the truth of these statements. It consists of 508 pages, of which the first 413 are devoted to the consideration of the various shades and degrees of gastro-enterite; under which term M. Bouillaud treats not only of the different forms of typhus fever, but also of every variety of idiopathic inflammation of the alimentary canal, as well as of most cases of what he calls “*embarras gastrique*”—in other words, of dyspepsia.

Such is one of the favourite doctrines of the so-called Philosophical School of Medicine in France; that school which, with the most pertinacious dogmatism, would strive to make us believe that almost all diseases are of the same essential nature and origin—viz. of a phlogistic state of the vascular system—and therefore that they all should be treated on one and the same principle. We are not afraid of this very absurd doctrine gaining much ground among the sober doctors of this island; but it is useful nevertheless to make ourselves acquainted with the errors and extravagancies of our flighty neighbours. To justify such a very sweeping censure, our readers may reasonably expect to be furnished with a few proofs; and we shall therefore gratify them with the report of one (we could have selected many others equally pertinent) case of “*phlegmasie aigue de l'estomac et des intestines*,” as a sample of some of the contents of M. Bouillaud's *Clinique*.

“*Observation LXV.* A man, 35 years of age, a workman, born at Vannes, indisposed for four days, admitted into the hospital on the 26th August, 1836, discharged on the 31st of August, 1836.

This patient is of a tolerably strong constitution. He came to Paris four days ago (from Bourbon-Vendée); he walked 120 leagues in the space of six or seven days. He has been in the army for ten years; in 1828, he had, according to his own report, a catarrh from the left side of the chest. For four days after his fatiguing journey, he kept quiet in the house. A painful weariness of the body, a swelling of the left foot, and headache then supervening, induced him to apply for admission into the hospital. He complained of pains and a sense of lassitude in the legs, with redness and swelling of the left great toe; he had some headache; the appetite was tolerably good, and the digestive functions were in good condition; there was slight cough; no fever and the heat of the body was normal. On the 27th, the following day, the report mentions that the patient was “*dans le meme etat*.” He was ordered some vegetable tea, a simple bath, and half the usual allowance of food. On the 31st, he was discharged cured,

Such is the printed description of a case alleged to be illustrative of one

of the forms or degrees of acute inflammation of the stomach and intestines!! Is it at all wonderful that a man after a long journey on foot should feel wearied and oppressed? that his legs and feet should be painful and swollen? or that rest in bed for a few days, with the assistance of a tepid bath and some nourishing food, should restore him in four days? Yet this is the exact history of an example of acute inflammation of the alimentary canal, reported in a scientific treatise on clinical medicine by an eminent professor of one of the largest hospitals in Paris in the year 1837!!

We have long suspected M. Bouillaud of exaggeration in all his opinions and statements on medical subjects, and have over and over again expressed our sentiments freely to this effect, more particularly in our late review of his *Essay on Medical Philosophy*. He is one of those vehement enthusiasts, who mistake the suggestions of their own fancies, or the mere desires of their own wills, for the actual perceptions of their senses, and the deductions of their calm judgment. Certainly we have never met with such a specimen of his wild extravagance as on the present occasion. But we have no wish to expose his absurdities any further, knowing well all the time that he is a most zealous and indefatigable physician and teacher, and firmly believing that all exclusive doctrines of medical science carry their own corrective along with them.

M. Louis, although a physician of more cautious habits and of more accurate research than his brother professor, is in our opinion not less erroneous in many of his favorite notions. He is acknowledged by all to be a most exact and admirable pathologist; but when we have said this, we have perhaps awarded him all the praise that is his due.

Judging from his writings, we have no hesitation in asserting that he is a most feeble and unscientific practitioner. In his zeal to reduce all the phenomena, operations, and effects of morbid action to certain invariable and uniform numerical laws, he loses sight of some of the most influential agents in the production and in the modification of disease. One might suppose that he had never heard of the different temperaments or diatheses of different patients; of the varying conditions of the atmosphere, as affected by climate, locality, as well as by many unknown aerial and terrestrial changes; of the influence of the mind upon the actions of the body, &c.—so complete is the omission of all such topics in most of his writings.

From the neglect of these most important enquiries in reference to the accurate examination and the judicious treatment of disease, his therapeutic directions are of little or no advantage to the practitioner, and often, as we shall presently have occasion to shew, are not only useless but are positively pernicious.

The source of all the errors of M. Louis is the vain attempt to reduce all the conclusions of medical science to the exactitude and uniformity of arithmetical calculations. He appears to consider a disease, say typhus fever for example, in nearly the same point of view, as a naturalist regards a species of animal in reference to its place in the zoological catalogue; just as if the characters or attributes of the fever were on all occasions, and under all circumstances, as uniform and steady as those of the animal. Misled by this most fallacious prejudice, it seems never to have entered into his mind that a disease, such as typhus fever, may require very different modes of treatment according to its prevailing type, and according to the constitution of

the patient affected, his age, habits, and a thousand other modifying circumstances, which the experienced practitioner knows so well how to appreciate.

This is the chief excellence of the Hippocratic and Sydenham schools of medicine—the philosophic investigation that was taken by these great men and by their followers, not only of the symptoms of each case, but also of the less obvious influences and operations, which temperament, climate, age, sex, occupation, &c. exert in modifying the features and characters of different cases, as well as of different epidemics. We readily acknowledge that the physicians of these bye-gone days were greatly ignorant of correct notions on pathology; and we also most gladly admit that our improved knowledge of the morbid effects of disease has contributed not a little to introduce a more scientific and a more successful method of treatment in almost every form of those ills to which frail flesh is heir to; but, while we make these concessions in favour of our own times, we must not shut our eyes against those fallacies and errors, which have been engendered of late years by the exclusive and extravagant attention to the pathology or morbid anatomy of diseases, as if the great object of medical science was only to expound the discoveries of the dissecting-room! Hence has arisen the unnecessary, and most wearisomely tedious description of the cases narrated in most of the recent French medical works. It is not unfrequent for the details of one case to be spread over ten or a dozen pages; and often two-thirds of the whole contents of a volume are taken up with report upon report, each the exact counterpart of its predecessor.

As the leading object, which we have proposed to ourselves in this Review, is to point out wherein M.M. Louis and Bouillaud are at fault in their treatment of typhus fever, we shall not occupy much time with their descriptions of the symptoms, or of the morbid appearances of the disease. Suffice it to say that both authors seem to agree in believing that the primary and essential mischief in this disease consists in an inflammatory affection of the mucous surface of the intestines. Speaking of the anatomical lesions found in the bodies of fever patients, M. Louis uses these words:

“Of all these lesions only one was constantly found, namely, an alteration of the elliptical patches of the small intestine, to which may be added a morbid change in the mesenteric glands. I have considered it as inseparable from the disease we are now studying, and as absolutely forming its anatomical characteristic. And as it was more or less serious in some subjects who died on the eighth day of the disease; as, in the very great majority of cases, the first symptoms indicated a lesion of the alimentary canal; as the changes of the small intestine were more serious than those of the colon, which was healthy in a great number of cases, I must conclude that the lesion of the elliptical patches in the small intestine began at the commencement of the disease.”

He proceeds to say:

“Although the other lesions must be considered as merely accessory or consecutive, still they commenced often quite soon after the principal disease. Especially was this the case with the different softenings, which were more serious in patients who died between the eighth and fifteenth days than in those who died afterwards.” 381.

Among these accessory or consecutive lesions, by far the most frequent and important are ulcerations of the large intestine, “which,” M. Louis states, “are likewise somewhat characteristic of the typhoid disease,” and

also enlargement and softening of the spleen. As a general summary of the pathology of typhus, we are induced to extract the following passage from M. Louis's work, more especially as it points out a most important distinction to be attended to by the morbid anatomist.

"These lesions were found more or less in all cases, were not all of the same nature, and did not all have the same cause; they were not equally frequent in patients who died at different periods of disease, and did not run their courses in the same period."

With respect to their nature, in some inflammation was more or less directly a cause; in others they appeared independent of it. Among the former were those in which there were false membranes in the pharynx; effusion of pus into the submucous cellular membrane of the pharynx, ulcerations of this organ, of the stomach and œsophagus; the mameloned condition of the mucous membrane of the stomach; its softening in many cases; its softening with diminution of thickness in some; the more or less serious morbid changes of the elliptical patches of the ileum; that of the mesenteric glands corresponding to the patches; the softening of the lining membrane of the large intestine in many subjects; its hard patches, its ulcerations; the swelling and softening of the mesocolic glands; redness with thickening of the mucous membrane of the gall-bladder; thickening of, with redness of the pelves of the kidneys; softening of the kidneys themselves in one case; partial destruction of the epiglottis; the first or second stages of inflammation of the lungs; false membranes of the arachnoid; finally, erysipelas and eschars upon the sacrum; ulceration with thickening of the skin in the spots where the blisters had been applied. The changes, independent of inflammation were, the pale softening of the liver and heart; the redness of the aorta, evidently at least, in the majority of the cases; the softening of the mucous membranes of the stomach, of one or both intestines in a certain number of cases; splenification of the lungs; effusion of bloody serous fluid into the pleuræ; the different conditions of the spleen; general softening of the brain, the rose or red color of the cortical substance of this organ." 379.

We are now prepared to follow M. M. Louis and Bouillaud in their description of the therapeutic means, which they have recommended in the treatment of typhus fever; and it will be interesting to the reader to notice the almost antipodal difference between the reports of the one and those of the other Parisian professor. The former, M. Louis, appears to be so sceptical of the utility of any remedial means, that we are fairly at a loss, after the perusal of his work, to state distinctly what is the treatment which he wishes us to adopt, and we are led to infer that he is quite enamoured with the advice in the Italian saying, "*dolce far niente*." He will, for instance, prove to you by the arithmetical comparison of a multitude of cases that nearly as many deaths occurred among those patients who were bled, as among those who were not.

Thus in one part, he says that "loss of blood had no appreciable effect upon the fatality of the disease;" in another part, that "the immediate effect of blood-letting, or that which could be observed on the day after the bleeding, is nothing, or almost nothing, or is not evident, upon the state of the symptoms of the typhoid affection; and that blood-letting, performed twice, during the first ten days of the disease, may shorten its course a little."

The admission in the last sentence of the preceding extract, viz.—"that bloodletting performed twice, during the first ten days of the disease, *may* shorten its course a little," is the only testimony which we can draw from

M. Louis' work in favour of this remedy. He tells us that those cases, in which bleeding was performed only *once*, were quite as fatal as those in which it was not performed at all; while on the other hand he objects to a more frequent repetition of the operation than twice in any case. Indeed it is almost impossible to decide from the vague and embarrassed statements of the author what is really and truly his opinion as to the effects of this potent remedy in typhus fever, or gastro-enterite, as he calls it.

But we cannot be much surprised at this, when we call to mind that he made the important discovery (!) a few years ago, that bloodletting has very little effect on the progress and issue of certain diseases, which all physicians, Eclectics as well as the so-called Physiologists, Hippocratists, and Broussaists, must admit to be essentially inflammatory, viz. pneumonia and pleuritis !*

This is a discovery, which will indeed stagger all our preconceived notions, whether these be derived from lectures, books, or practice itself.

Were we disposed to indulge in an angry spirit of criticism, we might find abundant subject for our ire in other parts of M. Louis' Chapter on Venæsection. For example, can any British physician read without astonishment, the announcement which we have just made of our author's experience of this remedy in pneumonia or pleuritis? or of another equally important discovery (!) that "the detraction of blood, when performed for the first time and very freely between the twentieth and twenty-fifth days of a typhus fever," is injurious? But we are certain that it is quite unnecessary to express our sentiments on such practice to the British reader.

We shall therefore proceed briefly to state M. Louis' opinions on the use of tonics in fever; his remarks on this subject are very common-place and unsatisfactory. For example, all that we truly gather from several pages of perplexing description, is contained in the following few lines, which any tyro in medicine might have communicated as well as M. Louis.

"I cannot, moreover, remind the reader too often, that the conditions most favorable to the success of tonics are a moderate acceleration of the pulse, for a still stronger reason, calmness of the circulation, a natural, or *but slightly increased* heat of the skin, a respiration of little frequency, a diarrhœa which is moderate, cerebral symptoms of little intensity, or almost absent, whatever may then be the degree of debility and prostration." 447.

There is certainly no room to find fault with these directions. We wish we could say as much of the treatment of some of the reported cases, in which tonics were administered. We have marked one, the 27th, for especial reprobation, and as it is strikingly illustrative of the unscientific practice of the anatomical physicians, we shall give here a short but correct abstract of the particulars.

A youth, 17 years of age, had been indisposed for fifteen days before his admission into the hospital. Almost immediately after he was taken in, violent delirium came on, so that the use of a straight jacket was requisite. On the following day, his face was full and flushed; he was restless and agitated; there was "no stupor, but his mind was almost completely gone;"

* For an account of this wonderful discovery, the reader is referred to the Foreign Periscope of this Journal for July 1835.

the pupils were dilated; the abdomen was swollen and painful on pressure; there was occasional cough, and auscultation discovered a dry sonorous râle on both sides of the chest; the pulse was regular, not large, 112; and the skin was rather hot.

An infusion of cinchona, containing a large portion of extract of this drug, was prescribed; an enema of cinchona was administered, and frictions with spirits of camphor were ordered.

Next day, the patient was violently delirious. He passed urine in bed, and was frequently muttering. The same medicines were continued.

On the 3rd day, the report announces the following symptoms; drowsiness, abdomen tympanitic; pulse small, feeble and rapid; skin soft and warm.

On the 5th day, we are told that the patient was extremely tender over the whole body, especially over the abdomen, and manifested extreme impatience when touched; the meteorism and other symptoms had not altered. The same medicines were continued, and a blister was applied to the chest. The patient died next day.

The only appearances, found on dissection, to account in M. Louis' opinion for death, were a softening of the mucous coat of the stomach, and a slightly inflamed state of the elliptical glandular patches on the inner surface of the ileum.

On attentively perusing the particulars of this case, we do not hesitate to assert that the practice, which was pursued, was most unscientific and improper. The existence of the violent delirium and of other symptoms indicative of constitutional excitement, which were present on the patient's admission into the hospital, would have induced a British physician to have abstained from giving large doses of cinchona. Instead of such treatment, he would have ordered the patient's head to be shaved, and kept cold with a spirituous lotion, and, if the vital powers did not authorize cautious depletion by means of leeches or the cupping glasses, he would most certainly have prescribed such remedies as effervescing draughts,* or other saline refrigerants.

When the proper period for administering tonics had arrived, he would prefer many others to large doses of extract of cinchona. The carbonate of

* The French physicians seem to be quite ignorant of this most common and useful form of medicine. We never meet with such a prescription as the *haust. salin. effervescens* in any of their writings; and we were not a little amused by reading the following remarks from such a well-informed author as M. Louis: "The English have, of late, revived the use of the carbonic acid, which was formerly of repute in the treatment of the typhoid affection. Nine patients, affected with this disease, have been very recently treated by M. Chomel in the wards of La Charité with gaseous water in enemata and in drinks. All of them, two of whom experienced severe symptoms (prolonged somnolency, delirium and meteorism) recovered. Another patient, treated in the same manner, in the city, by the same physician, died. If this first experiment cannot decide the question of the utility or inutility of the carbonic acid, it may induce us to administer it whenever the occasion presents itself." Such is a specimen of the utter ignorance of our neighbour as to the principles and practice of British medicine!

ammonia in an aromatic infusion, the mineral acids, with or without the use of wine or brandy, are among the safest and best.

The only other remedies which M. Louis treats of, are blisters to the neck or lower extremities, and the use of ice upon the head. With reference to the former, our author states:

"Blisters ought to be banished from the treatment of the typhoid affection, and with the more reason, as every one knows their bad effects, the loss of substance which they occasion, and the slowness with which their wounds heal in many cases. While they are of no utility towards the re-establishment of the cerebral functions, they concur, however, in maintaining or augmenting the febrile action and its troublesome consequences; their effect, as a derivative means for many of the inflammations which manifest themselves in the course of the typhoid affection, is more than doubtful, after what we have just seen above, an inflammation of a small extent in an organ almost inevitably bringing one or many others in its train. So that whatever view we take of blisters, we find only inconveniences, without any advantages to counterbalance them." 441.

And as to the application of ice to the head, it is condemned as equally inefficacious and improper:

"Moreover, if blisters had no appreciable influence upon the delirium and the somnolency, the same was the case with the application of ice upon the head and leeches to the neck, alone or in conjunction; so that we do not see why we should recommend their employment against the delirium, whatever may be its degree." 449.

Such is the sum and substance of M. Louis' therapeutic instructions in reference to typhus fever—a disease, than which none in the nosological catalogue requires, for its scientific and successful treatment, greater tact, discrimination, and delicacy. It is not by pursuing in all epidemics, or even in all cases of the same epidemic, a uniform, exclusive, and undeviating mode of practice—as, we fear, is far too much the case with the French physicians—that we can ever hope to be extensively fortunate. Bleeding and blistering may be required in some cases, and the use of tonics and of ice to the head may be demanded in others; but at the same time we can assure M. Louis that neither the one nor the other line of treatment is well suited to a very large proportion.

It is of especial importance in the management of certain forms of typhus fever that the practitioner be not over-officious, either with the use of his lancet and leeches, or with the exhibition of his Peruvian bark and his wine.

The cautious use of aperients—and the only safe guide in the use of these is a daily inspection of the alvine evacuations, as recommended by Dr. James Hamilton in his admirable work on purgatives—the administration of the milder mercurials, either alone or in combination with James' powder, or with mild refrigerants, such as the nitrate of potass, and the use of saline diaphoretics in the state of effervescence, constitute by far the most successful treatment in a multitude of cases of typhoid fever. The judicious practitioner will never omit to pay a due attention to the cutaneous surface, as well as to the state of all the mucous linings. For this purpose sponging the skin of the body and limbs with tepid water and vinegar twice a day will be found most beneficial, and certainly most soothing and refresh-

ing to the patient's feelings. The French physicians seem to be little acquainted with the good effects of this simple remedy.

But we must hasten to say a few words on the practice of M. Bouillaud, before closing. As a matter of course, bleeding is with him the grand remedy. The quantity of the blood drawn, and the frequency of the operation are, he admits, to vary with the gravity of the existing symptoms; but in no case, or at least in exceedingly few, is venesection to be omitted,

The average quantity drawn in the cases treated by M. Bouillaud was two pounds, or thereabouts. The mortality did not exceed one in eight; whereas according to our author, in the practice of M. M. Chomel, Louis and others, who adopt a less vigorous practice, it amounts to one in three or four. Certainly this would be decisive, if the data were satisfactory; but as we have remarked above, we have strong reason to suspect that M. Bouillaud classes numerous cases in his catalogue of typhoid fever, which the British physician and perhaps also many of his countrymen might regard as of a much more simple character,

The other remedies mentioned by M. Bouillaud, as having been used by him, are a low diet and refrigerant drinks, such as lemonade, iced water, or a solution of any pleasant vegetable lymph; enemata, baths, or affusions, ice to the head and to the abdomen, blisters and sinapisms to the limbs or to the abdomen: and lastly musk, charcoal and the chlorurets.

He tells us that aperients are rarely required, and that the very mildest only should be used. He has devoted a chapter to the consideration of the treatment of typhoid fever "*par la methode purgative nouvelle*."* The novelty of this method consists apparently in purging the patient to death's door, without any regard to the state of the alvine evacuations, or to the existing symptoms of the disease. M. Bouillaud has related three cases, in which the patients very speedily died, under the use of purgatives administered "*coup sur coup*." Mark the phrase "*coup sur coup*." It at once reveals the absurd and unscientific principles on which these schoolmen proceed, in the treatment of so serious a disease as typhus fever. Throughout the chapter there is not even one passing allusion made to the work of Dr. Hamilton, or of any other British physician. So much for the author of a work on the philosophy of medical science in the nineteenth century.

* The reader will find, in the Foreign Periscope of the present number, the report of an interesting discussion on the treatment of typhoid fever by the use of purgatives, which recently took place at the Royal Academy of Medicine in Paris.

M. Andral introduced the subject, and many of the most eminent metropolitan physicians took part in the debate. We strongly recommend our readers to peruse this article.—*Rev.*

PERISCOPE;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

THE CYCLOPÆDIÆ.

- I. THE CYCLOPÆDIA OF PRACTICAL SURGERY, COMPRISING A SERIES OF ORIGINAL DISSERTATIONS ON OPERATIVE MEDICINE, BY AN ASSOCIATION OF PHYSICIANS AND SURGEONS. Edited by *William B. Costello, M.D. &c.* &c. Part II. August 1837.

THE second part of this Cyclopædia is now before the public. It contains the following articles by the following authors—Amenorrhœa, by Dr. Jewel; Ammonia, Ammoniac, Ampulla, by Dr. Costello; Amputation, by Dr. King and Dr. Costello; Amylum and Anasarca, by Dr. Costello; Anastomosis, by Dr. Wardrop; Morbid Anatomy, by Dr. Hodgkin; Surgical Anatomy, by Dr. Tarral; Aneurysm, by Dr. Wardrop.

The longest and most important article is that on amputation. Those on morbid and on surgical anatomy are mere skeletons, or rather indices of what the nature of such subjects is. The article on aneurysm is only commenced.

The remarks on amenorrhœa, by Dr. Jewel, are brief, but judicious, perhaps not the less so because they are brief. Dr. Jewel very properly insists on the necessity of looking to the general health in investigating the causes, and in prosecuting the treatment of amenorrhœa, and in the propriety, we may say necessity, of ascertaining the condition of the parts, when the usual remedies fail. His directions with regard to treatment are sensible and practical.

The article Amputation is got up with much care, and illustrated with numerous wood-cuts. These are highly valuable adjuncts, and the publishers will do well to display liberality in the supply of them.

The plan pursued is as follows. The subject is introduced with some general remarks on the limbs; then we have a historical notice of amputation; then the cases in which amputation ought to be performed; then the prognosis of the operation; then the time and the place for amputating; then the preparation of the patient, and the necessary apparatus; then the means of arresting hæmorrhage; then the general methods of amputating; then the dressings after amputation; then the consequences, good and bad, of the operation; then the particular amputations. Supposing such a mode of treating the subject to be copious and accurate in detail, it must obviously be a very complete one.

An analysis of papers of this description is impracticable—a formal criticism tiresome, if not unnecessary. All that can be done is to select a few passages for the purpose of exhibiting the style in which the subject is discussed, and to pick out any novelties of consequence for extract.

Cautions against unnecessary Operations.—At the present time of day such

remarks as the succeeding are not without value, and may not be without effect :—

“ In cases of doubt, the surgeon will, therefore, abstain from using the knife. As we have dwelt a good deal upon the severity of the loss of a limb, with a view to impress the practitioner with the nature of the weighty duty he has to perform, when called upon to decide whether amputation is proper or not; and in order that he may give the subject his utmost attention, we are bound also to remark, that he must not allow his judgment to be influenced by considerations arising from a mistaken notion of what humanity dictates, and which are sometimes pressed by others. What is right is humane, in this as in most other cases. It is humane to amputate, and inhuman not to amputate where the necessity is pointed out by the rule we have supported, just as much as it would be inhuman to amputate, and humane not to amputate whenever the rule does not prescribe the operation. It is not in treating of this operation that we need defend the profession against the imputation, sometimes attempted to be cast upon it, of allowing the fondness for operating to influence its decisions. The amputation of a limb is always a painful duty to the surgeon. In some operations it is not so: in removing a tumour dangerous to life, he may, indeed, execute the task with a feeling of satisfaction; for he knows that he is extirpating morbid matter, that he is dislodging an enemy. But when amputating a limb, he feels that he is taking away an integral part of the body, which cannot be replaced, for the uses of which there is no substitute, and for the loss of which there can be no compensation.”

It is most true that, on the part of the profession generally, there is any thing but a fondness for operations; but it is not so certain that individuals are free from so serious a fault. The reports in the journals contain too many instances of operations performed for the sake of display, or at all events of operations performed under circumstances most unfavourable to the patient. This is a state of things which on all accounts should not be tolerated; it is disgraceful to the parties, injurious to the profession, and shocking to humanity. It will be put down. Public opinion is too strong for any man to fight against it; and, when sanctified by the principles which our feelings and our judgment both pronounce to be right, it will vanquish both the artifices and the clamour of faction.

Amputation during Suppuration.—“ In the few instances of extensive suppuration, or ulceration, for which amputation is justifiable, the time must vary according to the circumstances of each particular case. M. Blandin endeavours to establish a division of suppuration into acute and chronic.—The terms are not strictly appropriate; because all the distinction that can be admitted is that between suppuration of long standing, and suppuration from a recent lesion. He would call chronic that suppuration which results from scrofulous inflammation in the lymphatic glands, and acute that which occurs to separate the eschar of an extensive burn. The period for amputating in cases of extensive suppuration of long standing is correctly stated by M. Blandin and others, to be when the patient is somewhat, but not too much weakened by the purulent secretion: in cases of recent suppuration, on the contrary, the operation should be performed as soon as it is ascertained to be necessary. For those cases requiring amputation, in which the surgeon has some choice as to the precise period of performing it, and is not strictly tied to time, he should follow the rules laid down for the performance of operations generally: these he ought the more strictly to adhere to, as among what may be termed the major operations of surgery, there is not one of greater consequence than amputation.

He must not forget that a mild temperature and settled weather are decidedly favourable to success. He ought also to bear in mind that it is better to operate in the morning than at any other part of the day. The morning is the more

necessary, as the immediate preparations for the operation require some time; and the accidents which may supervene after it (which often require considerable time also) are much better counteracted during the day than in the evening."

The question of the superiority of amputations in the continuity of a limb, or in the joints, is decided by the authors, we think very justly, in favour of the former. But as most English surgeons have been for some time of this way of thinking, it is not necessary for us to go into the arguments in favour of it.

Preparation of a Patient previously to Amputation.—This is of great consequence, of very great consequence. Let us hear what Messrs. King and Costello have to say:—

"The body should be prepared by the best measures time and the circumstances of the case admit of; they should be such as are most likely to establish and preserve a good and calm state of the principal functions. In general the quantity of food should be diminished a good deal, but not changed to the extent recommended by the French, who go too far in this respect, while the English perhaps do not go far enough. There is a just medium to be observed. More is certainly to be feared from too much fullness, improperly called strength, than from too much emptiness. The digestive organs should have something to do, but their work ought to be light: the food should be simple, easy of digestion, and of a nature to procure a motion once in twenty-four hours. The circulating system should not be too full; but as some blood must be lost during the operation, and as the quantity can be increased by allowing the small vessels to bleed for a certain time before the ligatures are applied, preparatory blood-letting is seldom or never necessary. Besides, it might not be always safe, as the precise quantity of blood lost during the operation cannot always be foreseen or regulated, although we believe surgeons might regulate it better than they do, if they attended more to this matter, which, at present, they neglect to an unjustifiable degree.

As to the more immediate preparations, it is requisite to see that the bowels act within at least eight or ten hours of the time for operating. Should they not act naturally, it will be proper to procure a motion by an enema. We do not think the habit of purging patients, prior to great operations, a good one: surely it cannot be right to throw important organs into a state of commotion at such a time. No food should be put upon the stomach within three or four hours of the time fixed for the operation."

It, at first sight, appears probable that, as inflammatory sequelæ are what we most dread from amputation, the tendency to them would be diminished by lowering treatment prior to its performance. Yet we are sure that, in practice, such anticipations are not realized, and that more mischief is done by putting the patient in too low than in too high a state. In large towns especially this is found to be the case; and moderately good regimen both before an operation, and as soon as possible after it, conduces to the occurrence of what is so desirable—union by the first intention. We are confident that much of the notorious ill success which follows the great operations abroad, results from their mischievous interference with the natural powers. They always dread too much inflammation, and they take the means of ensuring the least desirable form of it—the suppurative.

The object of purging a short time prior to great operations, is, to prevent the necessity of purging soon after them. Surely the former is in every respect preferable. If there is to be a "commotion," it were best avoided when the cut limb and the dressings may be disturbed by it.

Hints with respect to the Apparatus. After observing that the requisite apparatus should be methodically laid out previous to the operation, the authors go on to remark:—To be the more certain that all the instruments are there, the

assistant should not neglect to recapitulate the divers steps of the operation, taking up each instrument in the order in which it is required and putting it down again; the operator ought to do the same immediately before he begins the amputation, in order to guard against any omission, which might be of serious consequence. Dupuytren never neglected these precautions.

The best amputating saw, our authors rightly state, is that invented by Dr. Fox of Derby. Its back is joined to the blade only at the extremities, and being moveable, may be inclined on either side so as to admit of the instrument being worked at the bottom of a hollow wound without the least chafing on the muscles or retractor. By this most useful improvement, Dr. Fox has rendered an important service to surgery. The next best saw to that of Dr. Fox is a common sash-saw rather widely set. Indeed, the surgeon should never use one that is not set sufficiently to work freely, or one that he is not accustomed to use. Every saw is an instrument with which a particular acquaintance is desirable on the part of the person who makes use of it. A joiner cannot work well if he has not his own favourite saw: how then can a surgeon expect to do so? A little farther on, our authors dwell on the fact so frequently observed—that a surgeon seldom saws well. The reason why a joiner does so, is, because he learns to saw—the reason why a surgeon bungles, is, because he does not learn to saw. Mr. Guthrie's advice is very good. He recommends surgeons to buy mopsticks, or to steal them, and to saw them up until they can saw them well.

Compression of the Artery. The following observations are judicious.

"Just at the instant the incision is about to be commenced, he is to compress the vessel to this degree; and in answer to the interrogatory look or word of the operator, to intimate that he has the circulation in the limb at his command. The pressure should be equal, and made perpendicularly to the plane on which the artery rests, but rather from than towards any accompanying vein. The hand exercising it should be in the most easy position, and so placed that the ends of the finger fall plump upon the vessel.

It will tire too soon if held in a cramped or uneasy position, or if too much force be employed. When the assistant feels fatigue, he can change hands without letting the artery escape, by sliding one down close upon the other. With these precautions, pressure may be kept up for hours.* An experienced assistant can exercise pressure for a very long time without fatigue, because he uses only the necessary degree of force, and takes care to hold himself and his hand in an easy posture. This is the plan of preventing hæmorrhage during amputation which is usually employed in the French hospitals, and which some English surgeons adopt.

Those who have never seen it tried will be agreeably surprised to find with what ease and certainty the passage of the blood may be completely stopped in a large artery by the fingers properly applied, provided the vessel rest upon something solid, as the femoral artery does on the os pubis, and the brachial artery on the upper third of the humerus. The great requisites are, to place the fingers directly over it, as when we feel the pulse at the wrist, to make the pressure perpendicularly to the resting-place, and to use a regular, and only the necessary degree of force."

"The tourniquet ought not to be applied until the surgeon is ready to begin his incisions: he should make it the last thing, so that the moment he has ascertained the instrument to be well fixed, and has confided it to the care of the

* "In a case where it was necessary to stop the passage of the blood in the femoral artery, for several days without impeding its venous circulation or injuring the skin, Dupuytren employed several assistants, who effected the object in this way. They relieved each other in turns every three or four hours."

assistant, he may begin the operation. To cause the blood to stagnate in the limb, as some surgeons do, by applying the tourniquet before they are ready to operate, can be of no use, but, on the contrary, must be injurious."

Vicious Amputations of Dupuytren. Mr. King is the speaker.

"His incisions were made with such velocity, that the eye could scarcely follow them; and to superficial observers, to those who were mere spectators, his amputations appeared splendid. The dexterity of the operator excited their admiration. But in myself, who assisted Dupuytren in these operations, the admiration was mingled with regret. I had to watch and dress the patients, and I could not shut my eyes to the evil results. The stumps were often conical in the wrong sense; sometimes even the bone was salient and afterwards exfoliated. Those who witnessed the operation only, went away with the notion that Dupuytren's amputations were equal to his other operations, almost all of which were excellent. This was unfortunate; for had it been otherwise, the general opinion of the profession would have been against his plan, and he might have been induced to alter it. His great fault lay in not devoting his first incision entirely to the division and preservation of the integuments. This he either did not see, or thought he could counteract by preserving an additional quantity of muscle; for he was aware that his stumps were often faulty; and I have frequently seen him make more than three sections of the muscles, and also dissect up round the bone, whispering as he proceeded, 'Surely I shall preserve soft parts enough here!' as if determined to secure a good stump."

These are all the observations we think it necessary to extract from this article. It is, on the whole, a very good one, and while it will instruct the inexperienced surgeon, it contains many hints for the experienced one.

Rete Mirabile in the Sloth. From the article ANASTOMOSIS by Dr. Wardrop, we may extract the following observations on the *arterial rete* of the sloth. He will be seen to advance a different hypothesis from that generally received, with respect to the objects attained by it.

"While these forms of anastomosis are had recourse to, in the examples which I have given, in order to prevent an undue quantity of blood being sent to particular organs, I have also mentioned that a similar form of structure is found to be employed for the purpose of securing a proper quantity of blood to a part which, from the habits of some animals, would be otherwise occasionally deprived of its requisite quantity of the sanguineous fluid. The most remarkable illustration of this provision is met with in the limbs of the Sloth, the arteries both of the legs and arms of these animals being formed into a *rete*—to which, however, Sir. Anthony Carlisle, who first described this structure, seems to me to have given a very erroneous and unphilosophical explanation, attributing to this mode of distribution in the arteries, the remarkably slow movements of this tribe of animals. The singular and no less curious part of the natural history of the sloth, is not however, its extremely sluggish motions, which Sir. A. Carlisle conceived could be explained from the peculiarity in the distribution of the brachial and femoral arteries, but the great muscularity which it possesses in grasping, or of suspending its own body for a most extraordinary length of time. 'We are told of a sloth that, having fastened itself by its feet to a pole, remained in the situation during fifteen days, and without sustenance! The strength in the legs and feet is so great, that having seized anything, it is almost impossible to oblige this animal to quit its hold. The same sloth grasped a dog that had been let loose upon it, and held it until it perished with hunger!'

The multiplied subdivisions of the brachial and femoral arteries of the sloth, and the subsequent reunion of these vessels into one trunk, must therefore, be considered as a peculiarity of structure connected with the extraordinary power which these animals possess of clinging to branches of trees for a very prolonged

time, and which they are impelled to do, in order to gather their food. Did the artery in the limb consist of one trunk, and was it in the usual situation, it is evident that the circulation would be disturbed, if not altogether interrupted, when the animal grasped with its limbs for any lengthened period; but all such compression is completely averted by the subdivisions of the brachial artery being so numerous at the part of the limb where the pressure is made, that whenever any of the vessels are compressed, and the circulation through them impeded, the blood finds a ready channel in the other branches of the trunk. There is even a further provision to ward off the effects of pressure on the brachial arteries of this animal, and which is so well known in the *feline* tribe,—the artery passing through a foramen on the inner condyle of the humerus; which may, indeed, be considered as an additional proof of the office which is required of the arterial plexus of the artery in the limbs."

Before we quit this Cyclopædia, we must recommend it to our readers. It is got up with much care on the part of its editor, and deserves encouragement. The greater *that* is, the better it will be.

II. THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by R. B. Todd, M.D. &c. &c. Part XI. August, 1837.

THIS work maintains its character, no trivial praise. The present number is almost exclusively devoted to human anatomy, and embraces the following subjects:—Eye (concluded), by Dr. Jacob—Face, by Mr. Partridge—Fascia, by Dr. Todd—Fat, by Mr. Brande—Femoral Artery, by Dr. Alcock—Fibrine, by Mr. Brande—Fibro-cartilage, by Dr. Todd—Fibrous Tissue, by Mr. Grainger—Fibular Artery, by Dr. Todd—Fifth Pair of Nerves, by Dr. Alcock.

These subjects are more or less ably handled by the gentlemen enumerated, but the details are in general far too rigidly anatomical for our pages. All that we can do is to select one or two statements, which either convey new facts or offer novel opinions.

1. *Size of the Posterior Chamber of the Aqueous Humor, and Operation of breaking up Cataract.*

The following observations on this subject are by Dr. Jacob. They deserve the attention of oculists.

"The size of the posterior chamber has been the subject of much discussion and controversy, and various attempts have been made by freezing the eye and other means to determine the matter. Petit, after a careful investigation, considered that the distance between the lens and iris was less than a quarter or half a line, in which Haller appears to concur. Winslow, in the *Memoirs of the French Academy* for 1721, insists that the iris is in contact with the lens. Lieutaud, in his *Essais Anatomiques*, is equally positive on this point, and even denies altogether the existence of a posterior chamber. The question is not an indifferent one, inasmuch as it involves important considerations as to operations for cataract and inflammations of the iris. Modern anatomists appear, generally, to consider the distance between the lens and iris to be greater than it really is. Although I cannot agree with Winslow and Lieutaud that the margin of the pupil is always in contact with the lens, I believe it frequently is so, especially in the earlier periods of life, when the curvatures of the lens are considerable. In iritis adhesions generally take place between the margin of the pupil and the capsule of the lens, a consequence not easily accounted for, if the parts be not in contact. In old age the lens becomes much flattened, and therefore retreats from the pupil, to such a degree that the shadow of the iris may often be seen in a crescentic form on a cataract; and in such persons, whether from this cause or from the inflammation not being of the adhesive character, blindness is more

frequently attended with dilated pupil. In breaking up cataracts through the cornea, I have repeatedly satisfied myself of the contact or close vicinity of the two surfaces by placing the needle between them."

A sketch copied from the works of Söemmering shews how small he considered the space between the iris and lens, and displays accurately how the posterior chamber is formed by the iris anteriorly, the lens posteriorly, and the ciliary processes at the circumference, with the small circular portion of the hyaloid membrane of the vitreous humour between the ciliary processes of the choroid and the circumference of the lens.

"It appears to me unaccountable," continues Dr. Jacob, "why surgeons, with these anatomical facts before them, still continue to introduce the needle into the posterior chamber, to break up cataracts, instead of passing it through the cornea into the anterior chamber, where ample space exists, and a full view is obtained of all the steps of the operation. In doing so the needle is thrust through opaque parts among delicate structures, into a narrow cavity, where, hidden by the iris, it can be used with little certainty of correct application. At the same time, instead of penetrating the simple structure of the cornea, which bears injury as well as any other structure of the body, the instrument pervades the fibrous sclerotic, a structure impatient of injury and prone to inflammation, punctures the ciliary ligament at the imminent risk of injuring one of the ciliary nerves or even wounding the long ciliary artery, and finally passes through one of the most vascular parts in the body, the *corpus ciliare*. The practice appears a signal instance of the influence of education, habit, and authority in setting improvement at defiance. The proofs afforded of the close vicinity of the margin of the pupil to the capsule of the lens, should remind the surgeon that one of the greatest dangers to be apprehended in iritis is the adhesion of these two parts, and that one of the first steps in the treatment should be to separate them by the application of belladonna, which, by its peculiar influence on the pupil, dilates that aperture, and, consequently, brings its margin more opposite the circumference of the lens and at a greater distance from the prominent central portion."

2. *Comparative Anatomy of the Two Portions of the Fifth Pair of Nerves.* Dr. Alcock, the author of the article on the Anatomy of the Fifth Pair of Nerves, thus alludes to the comparative anatomy of its ganglionic or sensitive and non-ganglionic or motor portions.

"The distinction of the nerve into two portions appears to prevail uniformly throughout the animal series. According to M. Serres, it is to be observed in all the classes of the vertebrate animals except the Reptiles; but in them, according to him, the *lateral fasciculi* are wanting. The latter assertion, however, is incorrect, the distinction being to be observed as satisfactorily in that class as in any other. Again, the distinction is not equally remarkable in all; in some it is still more so than in man; in others it is less; and according to the same authority, it is to be observed among Mammalia the more easily as we pass from Man to the Rodentia. Among the Cetacea it is divided throughout into two separate fasciculi."

3. *True Origin of the Motor Portion of the Fifth Nerve.* "In none of the authorities which the author has had an opportunity of consulting, has he found a particular origin assigned to the lesser packet. By most anatomical writers it is overlooked; J. F. Meckel states that it can be traced a certain way into the crus, but he goes no further; Mayo asserts that the lesser portion arises close upon the greater, and, in a sketch of the origins of the nerves given by him in his Physiology, it is represented traversing the crus cerebelli, as a single fasciculus, above and behind the greater, and attached to some part above that from which the greater is represented to arise: but still the origin is not defined, and it is manifestly intended to be distinct from that of the greater packet.

The author has succeeded, as it appears to him satisfactorily, in tracing both the roots of the lesser packet to a destination for which he was not prepared; at setting out he expected to have found the origin of the lesser different from that of the greater packet, and to have followed it to a prolongation of the anterior columns of the spinal cord, as has been stated by Harrison; it was therefore with surprise that, after a patient dissection, he succeeded in tracing both its roots to the same point, to which the greater packet is attached, behind the middle crus of the cerebellum; both the roots traverse the crus, as the greater does, the inferior very frequently in company with and internal to the greater packet, or separated from it by a very thin stratum of the substance of the crus, the superior near to the superior surface of that part, and separated from the greater packet by an interposed stratum of two or more lines; the course of the latter is so near to the surface of the crus, that it can frequently be traced for a considerable way by the eye without dissection: they present, in their mode of traversing the crus, two remarkable varieties; in some instances the fasciculi, of which they are composed, are separated from each other and even interlaced with those of the crus, and in such the pursuit of them is intricate and difficult; in others they pass in two distinct packets, and in these they are more easily followed. As they proceed they approach the greater packet, so that the interval between them and it gradually diminishes, and having traversed the crus, they are both attached below and behind it to the same part as the greater packet, and posterior to it. This view of the connection of the lesser packet, if confirmed, must lead to interesting results with regard to the relations of the two portions of the fifth nerve at least; it will at all events decide the question as yet in dispute, whether they are to be regarded as distinct nerves, or parts of the same; upon this point further light will be thrown by the disposition of the same part in fish, in which the source of the uncertainty prevailing with regard to the nerve in the higher classes does not exist to the same amount; inasmuch as the ganglionic and non-ganglionic divisions of the nerve seem for the greater part associated in their distribution."

Whether this is correct or not, remains to be established by other anatomists. The preceding are the principal remarks of novelty in this number of the *Cyclopædia*.

A NEW MODE OF TREATMENT EMPLOYED IN THE CURE OF VARIOUS FORMS OF ULCER AND GRANULATING WOUNDS. By *Frederick C. Skey*, F.R.S. &c. &c. 8vo. Stitched, pp. 85.

ALL our readers know what numerous brochures have appeared, are appearing, and probably will still continue to appear, on the subject of the treatment of ulcers. Mr. Skey's present pamphlet adverts to the number of its predecessors, and while it does not deprecate their value, it hopes to add something to the stock of remedies they have proposed. Indeed it does something more, for Mr. Skey observes in his Preface:—

"It is more that I fear the views I advocate may be prejudiced by an apparently overweening confidence on my part, than from any distrust of the future, confirming the confidence I entertain in the proposed remedy, that I hesitate to avow my unqualified belief in its competence to invariably supersede *all* operations, in the treatment and removal of non-specific ulcers.

With a careful diagnosis, a discriminating and judicious employment of the means, I believe, henceforth, the knife will be wholly unjustifiable."

After passing in review the several kinds of ulcers which occur, Mr. Skey particularizes that to which his mode of treatment is peculiarly applicable:—

"Although I conceive that the treatment I shall afterwards recommend, will be found applicable to every form of ulcer dependent on weakness—and in this

catalogue I should include more than nine-tenths of those affecting the lower limbs, and a large proportion of ulcers situated on any other part of the body—yet there is none in which it will be found so striking as in that most frequent form of the chronic or callous ulcer, affecting the legs of old persons.

The true chronic ulcer is destitute of all action of a healthy kind. It may co-exist with varicose veins, or it may not."

But what is the plan? It is the exhibition of opium. Mr. Skey quotes a passage from the "Opium eater," to shew its physiological effects on the morale, and then adds another of his own, establishing the parallel in regard to the physique. We will not absolutely guarantee the physiology of either the one or the other, but our readers shall judge for themselves.

"It communicates," says M De Quincy, "serenity and equipoise to all the faculties, active and passive; and with respect to the temper and moral feelings in general, it gives simply that sort of vital warmth which is approved by the judgment." "The expansion of the benign feelings incident to opium is *no febrile access, but a healthy restoration to that state which the mind would naturally recover upon the removal of any deep-seated irritation of pain* which had disturbed and quarrelled with the impulses of a heart originally just and good."

In the same degree that opium soothes and tranquillises the moral, does it invigorate the physical frame, and animate the dormant energies of healthy action. While its beneficial influence on the one, demands the existence of some mental obliquity, some deviation from the standard of health, so the other, requires the previous existence of actual disease, the ravages of which demand assistance, from the powers of renovation."

It is in small doses that it produces this desirable effect, and, in small doses Mr. Skey prescribes it—half a grain, for instance, night and morning, in open and discharging wounds.

"In many cases a very palpable effect is produced by eight drops of the tincture, twice a day; but I rarely commence with a less dose, than half a grain of the extract night and morning. The quantity will, however, depend on the age, sex, and constitution of the patient. Old persons bear opium better than young, and occasionally persons exhibit a peculiar idiosyncrasy, precluding its use altogether. An old person, varying from fifty to upwards, whose pulse is languid, whose skin is cool, and whose nervous system has been debilitated by indulgence in spirituous liquors, will take opium to almost any *medical* amount, not only with impunity, but with striking advantage. Yet in every case, however favourable in appearance, I commence with the dose above mentioned, viz. half a grain to two-thirds. On these conditions, however it may be rapidly increased, if necessary, up to two grains night and morning."

"I do not," says Mr. Skey, "profess to cure every, nor indeed any, description of ulcer by means of opium. There is great difference between *curing* and *healing* an ulcer. The term 'to cure' is much more comprehensive in its application, and embraces every variety of change, whether healthy or morbid, through which an ulcer travels to the final process of perfect cicatrisation. The term to heal is applicable only to the last stage, including the secretion of lymph, its organisation by vessels and nerves, and the investing process by the formation of skin; and this power I claim for opium under certain essential restrictions."

Most surgeons, we conceive, are in the habit of employing opium for certain ulcers, for those attended with much pain, or inclined to assume phagedænic characters, or occurring in the old and the debauched. So far then Mr. Skey's recommendation of the medicine cannot claim the merit of much originality. But he certainly appears to use it much more extensively than this, and there are not in his pages any material restrictions to its use in open and discharging sores.

Such treatment, we fancy, will be found more beneficial and less hazardous in the class of persons who enter hospitals for bad legs, than in the cases of indi-

viduals in the better classes of society. In them the great requisite is to improve the secretions, and gently to stimulate them while we do so. We doubt, therefore, whether Mr. Skey's plan will be found so universally applicable as he anticipates.

NATURAL HISTORY.

1. A HISTORY OF BRITISH QUADRUPEDS. By *Thomas Bell*, F.R.S., F.L.S. Professor of Zoology in King's College, London. Illustrated by a Wood-cut of each Species, and numerous vignettes. Published in Parts, price 2s. 6d. each. Parts 1 to 10.
3. A HISTORY OF BRITISH BIRDS. By *William Yarrell*, F.L.S. Secretary to the Zoological Society. Illustrated by a Wood-cut of each Species, and numerous vignettes. 8vo. Stitched. Van Voorst, London. July, 1837. Part 1. Price 2s. 6d.

ONE number more, and the first work on our list will be complete. That number was to have been published on the 1st of August, but we have not yet, and it is the latter end of the month, received it.

The work itself is a highly interesting, we may say, a valuable one. The execution is in every respect creditable to *all* the parties concerned—author—engraver—printer—and publisher. We strongly recommend such of our readers as take an interest in natural history, and particularly our readers in the country, to purchase the volume when completed. It will be equally elegant and entertaining in the professional library or on the table of the drawing-room.

The first Part of a History of British Birds by Mr. Yarrell is a fit companion to the work of Mr. Bell. Mr. Yarrell's situation as Secretary to the Zoological Society gives him necessarily considerable opportunities of which he knows well how to avail himself.

In this Part we are presented with an interesting account, and spirited wood-cuts of the Egyptian vulture—the golden eagle—the white-tailed eagle—the osprey—the gyr falcon—the peregrine falcon—the hobby—and the red-footed falcon.

As a sample of Mr. Yarrell's mode of treating his subject take the following passages.

"The power of vision in birds is observed to be very extraordinary; and in none is it more conspicuous than in the Eagles, and in the *Falconidæ* generally. It has been stated that probably in the whole range of anatomical structure, no more perfect or more conclusive proofs of design could be adduced than are to be found in the numerous and beautiful modifications in the form of various parts of the eyes of different animals, destined to exercise vision in media of various degrees of transparency as well as density. The figure on the right hand of the vignette at the end of this article represents the circle, composed of fifteen bony plates, by which the orb of the eye of the Golden Eagle is supported. These bony plates are capable of slight motion upon each other. The figure on the left hand in the vignette represents the crystalline lens of the same bird; the lens being subject to great variety of form in different birds. In the Eagle, the proportion of the axis to the diameter of the lens is as three and eight-tenths to five and seven-tenths; in the Great Owl, which seeks its prey at twilight, the relative proportions of the lens are as six and five-tenths to seven and eight-tenths; and in the Swan, which has to select its food under water, the proportions of the lens are as three to three and eight-tenths. Birds have also the power of altering the degree of the convexity of the cornea. With numerous modifications of form, aided by delicate muscular arrangement, birds appear to

have the power of obtaining such variable degrees of extent or intensity of vision as are most in accordance with their peculiar habits and necessities."

" 'The versatility of the outer toe of the Osprey, the strength, curvature, and sharpness of its claws, and the roughness of the soles of its feet, are peculiarities of structure adapted to the better securing its slippery prey; and the shortness of its thigh-feathers, unusual in the Falcon tribe, is also evidently connected with its fishing habits.' A specimen at the Gardens of the Zoological Society of London, when a fish was given to it, was observed to seize it across the body, placing the inner and outer toes at right angles with the middle and hind toes, and digging in the claws, held the fish most firmly by four opposite points; not relaxing its hold or altering the position of the toes, but picking out the portions of flesh from between them with great ease and dexterity.

We recommend this work too, and shall notice successive parts, as they appear.

ON THE NATURE AND TREATMENT OF THE DISEASES OF THE HEART, WITH SOME NEW VIEWS ON THE PHYSIOLOGY OF THE CIRCULATION. By *James Wardrop*, M.D. Part First. Churchill, 1837.

THE Author commences this part with some description of the anatomy of the heart; but commits a physiological exaggeration in the very beginning.

"There is, however, one essential difference in the functions of the muscles of the heart from those of all other organs; they *have no repose!*"

There can be no question that the contractions of the heart's muscular fibres are periodical. The systole requires about one half the space of time required by the diastole—hence the act of *contraction* occupies about eight out of the twenty-four hours. Is this constant action? We agree with Dr. Wardrop that the apparent effect of muscular exercise is to accelerate the venous, and somewhat retard the arterial circulation.

"But whilst the pressure caused by muscles during their contraction propels the blood onwards in the contiguous *veins*, it seems never to have been contemplated what must be the effect of that compression on the adjacent *arteries*, although these vessels are doubtless alike exposed to its influence. It will however be shown that the effect of muscular contractions both on arteries adjacent to, as well as on those imbedded in, the substance of muscles, must be to compress these vessels, by which compression the flow of blood through them will be necessarily impeded,—hence, the contraction of muscles will increase the accumulation of blood within the heart in two ways,—by *accelerating* the flow of the venous blood to the right heart, and by *impeding* the transit of the arterial blood from the left heart."

It would not be difficult, we conceive, to prove, that, owing to the powerful *vis à tergo* propelling the blood in the arteries—the elastic nature of their coats—and the disposition of the valves in the veins, the compression exerted by the muscles cannot tell greatly against the circulation.

But Dr. Wardrop carries out his ideas on this subject rather far. Few would be inclined to imagine that this pressure of the muscles on the arteries does great things in the economy: Yet Dr. Wardrop assures us that it does so.

"For performing this important function, and which I have denominated the *musculo-cardiac function*, we perceive several simple and beautiful contrivances; whilst we also find a striking illustration of this peculiar office of the muscular system in the mechanism which nature has adopted in order to *prevent* the compression of some arteries, when such compression would be injurious to the proper performance of the functions of those organs which such arteries supply. For although it appears that it is not requisite that some organs should be at all times supplied with an equal quantity of blood, there are others wherein any

alteration in the supply of blood, would be prejudicial, or even fatal, to the great functions of life; and hence, whenever the heart requires an additional quantity of blood, that office is fulfilled by impeding the flow of the arterial blood through the arteries of those organs only which do not at all times require a uniform supply of the sanguineous fluid.

In accordance with these positions, we find that the arteries of all organs of the first denominations are so placed that they must inevitably be more or less compressed by the contractions of the adjacent muscles; whilst the arteries of the other class of organs are so situated, that they are protected from all pressure from the movements of the muscles contiguous to them.

For a demonstration of the first of these conditions, we must look at the arteries of the limbs, while those of the brain, heart, stomach, and iris, each exemplify particular contrivances, by means of which the quantity of blood in these organs is not subject to any variations from muscular movements.

There are, indeed, several points, in the anatomy both of the muscles and of the arteries, which seem to be specially subservient to the musculo-cardiac function. Arteries accompany the veins where it is intended that both these systems of vessels shall be influenced by muscular contractions; yet long, as the period has been that the relative position of the blood-vessels and muscles of the limbs has been pointed out, no rational explanation of the utility of such an arrangement has been given. It is, however, evident, according to the preceding views, that by such a disposition of the two systems of vessels, the velocity of the blood is equally influenced in the veins and in the arteries whenever the adjacent muscles are contracted;—that whilst muscular contractions assist in propelling the blood in the veins forwards to the right heart, the valves preventing its regurgitation, the same pressure impedes the current in the contiguous arteries, and thus diminishes the exit of blood from the left heart.

Here then, we have an anatomical fact, affording additional proof of the simplicity and wisdom which Nature displays in all her works employing one organ to perform at the same time more than one function,—veins and arteries accompanying each other in those situations where it is intended that the circulation of the blood, both venous and arterial, shall be influenced by the contractions of muscles; at the same time those vessels which are not liable to compression from muscular contractions are not similarly disposed, either with relation to the muscles or to each other;—thus in the internal viscera, such as in the brain, lungs, and liver, the veins do not accompany the arteries."

This is ingenious, but, as our trans-Atlantic contemporaries say, it wants confirmation. Nay, the facts which are set forth are dubious. Dr. Wardrop, for example, observes, that, in the limbs, there is no provision for obviating the pressure of the muscles on the arteries. Suppose we take the main arteries of the lower limbs, and observe whether this statement, in reference to them, is accurate. The inguinal artery passes through a tendinous canal at the groin; it does the same where it passes to the back of the thigh; it lies deep in a bony gutter at the ham; it passes under a tendinous arch beneath the soleus; the profound and perforating branches all go through tendinous openings in the adductor muscles. Do these demonstrable contrivances square with our author's observations, or do they look as if Nature rather wished for pressure on the vessels than otherwise? They rather tend, to a plain thinker, to shew that where any amount of compression might be anticipated, means are employed to obviate it.

It must be remarked, too, that in all these instances the artery is accompanied by its vein, a circumstance which also militates against the spirit of Dr. Wardrop's remarks. No doubt that the muscular compression *does* impede, in some degree, the passage of the blood through the arteries. But we may grant this, without admitting that either the degree of that impediment is so great as Dr. Wardrop appears to suppose, or that it serves so useful a purpose as he con-

tends for in the system. To us it appears rather to be a necessary consequence of the existence of arteries and muscles, which Nature has rather guarded against than favoured by specific arrangements, and which she rather submits to, than turns to any particular purpose. But our author's words have been quoted, and our readers may possibly prefer his ideas to the prevailing ones.

Dr. Wardrop applies his theory to the explanation of many important phenomena, which, without its assistance, were, he thinks, inexplicable.

"Some muscular movement will be observed to precede every effort which we make to increase the action of particular organs, because, for such a purpose, it is first required that the vigour of the heart shall be increased. Hence we find that, unless when the body is in a state of perfect tranquillity, which can scarcely ever happen but during sleep, the circulation of the blood throughout the system is constantly varying, any muscular movement, however slight, increasing the influx of the venous blood, and at the same time impeding the reflux of the arterial blood. Thus in some organs the quantity of blood is diminished, and in others increased, by every motion of the body, those which are called upon to perform particular functions receiving an increase, whilst other organs whose office is less urgent, experience a diminution in the supply of the sanguineous fluid."

"Observe how the strength and vigour of the body is increased when we require to make any great exertion! In order to produce a temporary increase in the heart's action, I have already remarked that it is requisite to give to that organ an additional stimulus. This is at once effected by throwing into action such muscles as shall, by their newly acquired forms, compress the contiguous arteries, and thus impede the transit of the arterial blood.

If, by way of illustration, a man be about to make any great exertion, such as running or leaping, he prepares himself, as it were, by first vigorously contracting the muscles of the arms and clenching his hands. For the same reason, when a person is subjected to pain, as that of a surgical operation, he prepares himself to endure it by throwing into action almost all the voluntary muscles, grasping firmly with his hands, and pressing the feet against some resisting body. And when the female, during parturition, is about to make a powerful expulsive effort to assist the uterus in giving birth to the infant, she in like manner throws into violent and long continued contractions the muscles of the extremities, clenches the jaws, and squeezes with a convulsive effort whatever may be within her reach."

Dr. Wardrop takes no notice of an obvious method of accounting for the circumstances that he mentions. If a person is about to make a violent or continued effort with some muscles, it is necessary that their points of origin should be firmly fixed, and that the fulcra of the bony levers to be moved should be fixed too. Other muscles are called into action to effect this, and the very instance cited by our author—that of the female in the act of parturition—is precisely one in point. We fancy that this mechanical object is one of, at least, as much importance, as that which Dr. Wardrop dwells on.

However this may be, our author applies his physiological views to pathology. By the former, we are shewn that yawning and stretching are very important natural means of *waking* us, that is, of restoring energy to the sleeping sensorium—by the latter, that the same yawning and stretching are not always to be lightly indulged in.

"My attention was directed to some of these phenomena and to the physical explanation of them which I have now given, when attending a patient who had frequent attacks of gout, and who had been sometimes before affected with an arthritic inflammation of the pericardium. After that illness he suffered from palpitation of the heart every morning just at the moment when he awoke, but they continued only a few minutes. On enquiring if he was in the habit of yawning and stretching his limbs, he then stated that he always did so whilst

in the act of awaking, and that it was immediately afterwards when he felt the palpitation. He further observed, when interrogated on this point, that if he accidentally awoke during the night and stretched himself, palpitation of the heart always ensued.

The effect of yawning and stretching the body in disturbing a diseased heart I also observed in a person who had for many years suffered from symptoms of Hypertrophy, and who was recovering from a febrile illness, for the relief of which an antiphlogistic treatment had been pursued. When convalescent, this patient had no uneasy feelings remaining except a pain in his head, which came on every morning immediately after he awoke, but did not continue longer than ten minutes. From the circumstance of this head-ache occurring only after he awoke, and from his stating that he was in the habit of yawning and forcibly stretching his limbs whilst he was awaking, it appeared to me probable that the increase of blood in the irritable heart caused by those movements, produced the *headache* in the same manner as it had in the former instance caused *palpitation*."

Dr. Wardrop passes to the lungs, and, after noticing the effects of inspiration and expiration on the circulation, he proceeds to dwell on what he terms the *pulmo-cardiac function*. This essentially consists in the capability on the part of the lungs, of receiving a surplus quantity of blood which would otherwise injuriously distend the heart.

Dr. Wardrop goes on to observe that whilst the Pulmo-Cardiac Function is employed to relieve the heart of any surplus quantity of blood which it cannot receive within its cavities, the *veins* will in like manner be found to relieve the pulmonary vessels of any superabundant blood which they are not capable of receiving without interruption to the great function of respiration.

The veins which effect this purpose are the subcutaneous veins, those which are not compressed by the muscles in their contraction. No more striking example, he observes, can be given of this office of the superficial veins, than their distended appearance beneath the delicate skin of a race-horse, after a severe gallop.

Dr. Wardrop considers seriatim the process of training—the influence of laughing—crying—weeping—sobbing—sighing—vomiting—coughing—sneezing—and hiccup, in effecting certain changes in the circulation of the blood in the lungs and heart for some essential purpose. He treats also of the modifications of respiration in running and in raising a weight, and he thus obscurely explains sea-sickness:

"It is from a want of the power of adjustment, or co-operation in the respiratory and circulating organs, by which we can explain *sea-sickness*. Dr. Wollaston observed, that in those who did not suffer sickness at sea, their respiration was altered. In waking from very disturbed sleep, he found that his respirations were not made with the accustomed uniformity, but were interrupted by irregular pauses, with an appearance of watching for some favourable opportunity to make the succeeding effort, and it seemed as if the act of inspiration were in some manner to be guided by the tendency of the vessel to pitch with an uneasy motion."

He terminates the consideration of the Pulmo-Cardiac Function, by a few remarks on the effects of swinging on the circulation, on the preservation of the balance of the circulation in different postures, and on the modification of the circulation according to the habits of different animals.

The work concludes with some general reflections on the reciprocal influence of the heart and brain; on the reciprocal influence of the heart and digestive organs; on the blood; on the pulse; and on the sounds of the heart. None appear to require notice, and we quit the work, with a recommendation to such of our readers as desire to peruse some very ingenious speculations on important phenomena, to purchase and to study it. The observations it contains are couched in an easy unaffected style, and many are extremely interesting.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS

THE PRESENT STATE OF PHARMACY
IN GERMANY.*

Mr. Kane, the scientific chemist, of Dublin, has communicated the paper from which we extract the following particulars to our Irish contemporary.

It would appear from Mr. Kane's observations, that, if England is the land of *pure* surgeons and physicians, Germany rejoices in her *pure* apothecaries.

"In attempting, by the following remarks, to dissipate those incorrect ideas, I shall confine them to the state of pharmacy in Germany, as in that country the pure apothecary exists in a degree of purity unknown elsewhere, the laws in France, as we shall cursorily remark, reducing the profession to a very inefficient condition. And it is fortunate for the simplicity, as well as for the brevity of the communication, that the differences between the regulations of the various German states are so trivial, that a description can be found almost equally applicable to all."

The following is the situation of the German apothecary.

The grand distinction between the apothecary in Ireland and in Germany, is, that the latter is, in fact, an officer of the government. On his being pronounced by competent examiners properly qualified for the office, he is, on the occurrence of a vacancy, appointed to dispense medicines to the sick people; and the government, in place of paying him a direct salary from the public purse, enables him to pay himself, by charging for his medicines, the price being fixed by authority, and competition being prevented, inasmuch as none but apothecaries are allowed to retail drugs; and the number of apothecaries is kept within a certain limit.

We fancy that the latter regulation would be no bad thing in this country. Nor is it the apothecary only in England who would jump at it. The purity of the pures would not be scandalized

at a little gentle repression of their numbers. We are all, physician, surgeon, and apothecary, too much in the situation of the Kilkenny cats.

But let us trace the rise and progress of the German pharmacopolist.

"About the age of fourteen or fifteen, the boy undergoes an examination before the pharmaceutic commission as to his acquaintance with languages, (Greek, Latin, French) the elementary mathematics, and general instruction, as history, geography. If he appears so advanced, that his special education can be commenced, he obtains a certificate to that purpose, and enters as *lehrling* or apprentice into a shop, for a term of three or four years. To almost every shop is attached a laboratory; and we must recollect, that with a German apothecary the student spends the years of his apprenticeship not merely in making up recipes, as is the custom here, but is engaged in the nicest investigations of modern chemistry, and works under the same circumstances that brought into action the neatness and accuracy of Klaploth and of Rose, that developed the transcendent powers of discovery possessed by Liebig and by Scheele.

The student having completed the term for which he had engaged himself to the apothecary his master, passes to the university, and commences attendance on the lectures of such professors as he considers best qualified to teach him what he wants. There is no curriculum made out; he knows the subjects on which he shall be examined; but he is left to acquire the knowledge requisite for passing when, where, or how he chooses, it being understood that he cannot leave his own country's university without special permission. For two or three years he attends the lectures on mathematics, physics, chemistry, botany, pharmacology, zoology, mineralogy, sometimes also anatomy and physiology; and generally works a year in the university laboratory, particularly if the university professor be

* Dublin Journal, July, 1837.

of eminence. When the student has thus spent at least five years in the acquisition of professional knowledge, he acquaints the pharmaceutic commission that he wishes to be examined, and is accordingly examined for two several days, and for more than two hours each day. The examination is rigidly confined to the physical and natural sciences, but is in these exceedingly strict. In chemistry, in botany, in the natural history of drugs, and the mode of preparing and compounding them, a degree of accurate knowledge is required, which it might prove very inconvenient to demand from many of our most admired teachers. If the candidate be approved of, he receives his license to hold a shop; his business then is, to try whether he can get one."

Apothecaries' Hall is nothing to this. How our students would relish such an examination as the German neophyte undergoes, we may without much difficulty, guess. But this is not all.

"While the student has been thus reading for his degree in pharmacy, he generally attends the lectures of the professors to the philosophical faculty, and becomes, on the termination of his studies, Doctor in Philosophy. The majority of the leading apothecaries, whose acquaintance I was so fortunate as to make, are Doctors in Philosophy. In fact, the apothecary is as usually Doctor in Philosophy, as the physician Doctor in Medicine; the doctorate of the medicinal faculty being only a nominal degree, and quite distinct from the license to practise medicine. It is on this account, that persons who are rejected here, or in England, obtain doctorship in Germany so easily; but if they applied for a license to practise medicine, or to act as an apothecary, the result would give to them an idea of an examination completely new."

Some of our German doctors will, we are quite confident, take this kindly hint, and not content themselves in future with only the degree. Our M.D.'s of Erlangen and Göttingen, &c. will undergo the severe examination, merely for the purpose of establishing the national reputation in their persons. What a pity it is they did not

know this long ago. They would not have been bantered on the "cheap and nasty" doctorate. But they may still avail themselves of the opportunity of obtaining distinction, and we feel assured that they will do so.

Let us enter the apothecary's shop.

"Our subject, who is now apothecary and Doctor in Philosophy, wishes to get a shop and commence business. A shop can be obtained, however, only by one of two means, opening a new one, or purchasing one already established: both of these methods are restricted in a very remarkable manner. The government having compelled the student to a course of education requiring so considerable an outlay of time and money, is bound to provide that he can obtain a compensating return; and this is effected in a manner very well worthy of imitation.

To each district is allowed a number of apothecaries proportional to its population, averaging, in the greater part of Germany, one apothecary to 5,000 persons. The shops are, of course, principally in the towns, and this might give rise to false impressions. Thus, in Giessen, with only 8,000 inhabitants, there are three apothecaries; but the surrounding country is very densely inhabited. Round Darmstadt the population is not thick, and therefore, though with 22,000 inhabitants, it has but five. Göttingen, with 10,000, has only two, the neighbourhood being but thinly covered with people. There are, however, real exceptions to this average. Thus, I was informed by Professor Dulk, that in Prussia Proper, and in Pomerania, owing to the scattered nature of the population, there is but one apothecary to 8, or 10,000. And in the Rhine-province of Prussia, the other extreme prevails, for there are not more than 2,000 people to one apothecary, owing to the law *having allowed*, during the occupation of the French, an unlimited number of shops, and many of them remaining still in existence.

In general, however, there are 5,000 people to one apothecary; and no person is allowed to deprive him of them; no retail druggists are permitted; none

but an apothecary can sell medicinal drugs. The apothecaries themselves are not allowed to compete, at least by reduction of prices. Every year a price list for drugs is published by authority; and no apothecary is allowed to deviate from the prices contained in it, which are placed so, as to give a very high rate of profit, indeed much higher than could be obtained here.

When a district, from improvements of manufactures, or otherwise, increases in population, a corresponding number of new apothecaries' shops are opened by the government; or what is the same thing, permission is given to so many of those candidate apothecaries whose names are first on the list, to open shops in such places as require them. This is the one way of getting into business. The other is, that the shops in the already peopled districts, from time to time fall into the market, either from the death of their previous possessors, or from their possessors becoming legally incapable of continuing longer to trade in medicine.

In the case of a vacancy by death, the heirs of the late possessor have power to sell the concern, but the purchaser must be one of those who have obtained a license to open shop. And where the shop becomes void by the dismissal of the former occupant; he is always allowed by the government, though not entitled, to dispose of his interest in it to the best advantage, the purchaser being, as before, one of the qualified class.

The income arising from a shop being thus always respectable, and sometimes very considerable, the number of candidates, who are often taken from the most respectable *bürger* families together with the comparative rarity of a situation becoming vacant, raises the price of a good concern far beyond what, to our ideas, would appear its value. Thus in towns or from 6 to 8,000 inhabitants, it is usual to pay from 6 to £800 for an establishment. In larger towns, 12 or £1,400 is not uncommon; but in large cities, as Berlin, Dresden, Vienna, &c., the prices become enormously high. Indeed, I was assured by a gentleman of great

eminence, and on whose veracity I can implicitly rely, that a short time ago, a shop, certainly one of the first in Berlin, was sold, and 60,000 thalers, equal to £9,000, paid down. I must add, however, that the establishments which bring such high prices are not mere apothecaries' shops; there is generally attached to them a factory of chemical preparations. The leading apothecaries are generally manufacturers of the nicer chemical substances, particularly the vegetable *alcaloids*; and the names of Merck, Winkler, Wittstock, and many others, are nearly as well known in the commercial as in the scientific world.

I mentioned that no apothecary is allowed to charge more for his drugs than the price regulated by the list; and as this price is quite sufficiently remunerating, he is forbid in the strongest manner from attempting to increase his profits by substituting an inferior article. There are in each state officers appointed, comprising the University Professors of Chemistry and Botany, who yearly submit to strict investigation the condition of every apothecary's shop in the district. We know that there is in this country a similar examination, but it is a mere matter of form; the results are never known, at least publicly; and the punishment is of too ridiculous a nature ever to be inflicted. In Germany, however, it is quite a different matter: each shop is separately the subject of a report, comprising the details of the size of the shop, states of drawers, glass cases, the number of rooms, the number of pupils, the nature of the library which the apothecary possesses, of the laboratory, the age, quantity, and condition of every single medicine."

This is rather sharp supervision, and even a German apothecary's shop may not always escape from it unscathed. Should matters not be quite *comme il faut*, the proceedings adopted by the authorities would appear to be somewhat summary.

"Submitted to so rigid an inspection, it need not create surprise that a shop should frequently give occasion to an unfavourable report of its condition. In that case the owner, if it be his first

offence, is severely reprimanded. If he be a second time detected, a pecuniary fine is inflicted to a considerable amount but varying in proportion to the importance of the shop, and the more or less grave nature of the offence. On his being a third time denounced, he is suspended, his license to hold a shop is removed, and the concern becomes legally confiscated to the state; but in fact, he always obtains permission either to make over the management, or altogether to sell his place to a person qualified to act, and of whom there are always many waiting such an opportunity: he is himself irrevocably dismissed from his vocation.

Having thus described the details of the regulations to which the apothecary in Germany is subjected, the result is capable of being conveyed in a very few words. He becomes the fellow-labourer, but not the rival, of the physician. His education is equal, though in a different path. His origin is as high; his income is as considerable; and he is received in general and in learned society on the same footing as any other man possessing equal property and information. If we look to any meeting of the German Association of scientific men, we find an independent section for pharmacy; and we likewise see that the great mass of the work of the chemical and botanical sections is accomplished by persons, who, if not apothecaries, were originally intended to be such, had not their talents and love of science carried them to a higher sphere of action."

There may be some advantages in such a system, but they are the advantages of despotism, and more than counter-balanced by those of freedom, with all *its* evils. If there is any principle which puts the human mind upon its mettle, and excites it to most vigorous efforts, it is that of unlimited competition. Continental despotism and centralization are incompatible with *its* existence, and the government affects to direct and to control every thing, from a dose of physic up to the making of a railroad. The consequences of systems so opposite as those of the Continent and of this country must be

regarded not in detail, but in the gross—not in one solitary, but in a comprehensive aspect. When so regarded, the advantages will be found to preponderate greatly on the side of liberty, and when we look at England with her free institutions, and see the individual energy and enterprize, and the general power and resources she exhibits, we shall have no reason to be dissatisfied with her condition. It would be as impossible to introduce the German system of pharmacopolists here, as it would be to introduce the German system of bayonets; one indeed must come with the other, or not come at all.

We have not space, at present, to examine the comparative advantages of the two systems, viewed without reference to general considerations. This is of little consequence, as such a view would be merely speculative. But we may observe, that this has long been, and still is, a country of aristocratic institutions, habits, and feelings, and that our medical polity partakes of the national temper. As that undergoes, which it seems to be doing, a gradual alteration, our medical institutions must alter too. But the change, in partial as in general politics, will probably not be a very sudden one, for the party in favour of things as they are is strong both in numbers and in influence.

CASE OF HERNIA PERICARDII. By
T. HART, A.B., Conservator of the
Museum of the School of Medicine,
Park-street.*

This, previously unrecorded, pathological condition occurred in an aged female subject, history unknown, taken into the Park-street school for dissection.

On opening the thorax, the pleuræ on both sides were universally united by old adhesions.

"The anterior mediastinum was occupied by a membranous pyriform sac

* Dublin Journal, July.

of considerable size, lying on and overlapping the pericardium, which was greatly distended, as well from the large quantity of fluid it contained, as from the hypertrophied condition of the heart, this organ being in a state of active aneurism. The sac contained fluid to the amount of three or four ounces, and was free and unattached in its whole extent, except at its upper and smaller extremity, where there existed a free communication between it and the pericardium, as proved by the following simple experiment:—By raising the sac off the pericardium, it was made to empty itself, the fluid passing into, and increasing the already distended condition of that sac; and again, on pressing on the pericardium from below upwards, the abnormal sac, in its turn, assumed its former dilated appearance.

The pericardium was next laid open by a longitudinal incision, and its communication with the abnormal sac brought into view; it was situated immediately at the point of reflection of the pericardium on the aorta, in one of those pouches, designated the sinuses of Haller, and presented a regular, well defined, circular orifice, freely admitting the introduction of a finger, around which the fibrous membrane of the pericardium formed a thick annulus of great strength, and then passed, considerably attenuated however, over the whole surface of the sac: the serous membrane passed into, and lined it throughout. The preparation of this very interesting case is now preserved in the Park-street Museum."

This does not appear to us to be strictly hernia of the pericardium, but rather a pouch communicating with the pericardium. There is no evidence to shew that any anatomical element of the pericardium had protruded so as to constitute the pouch, a necessary circumstance, we apprehend, for the existence of a hernia. But the case is curious.

ON THE POSSIBILITY OF TRANSPLANTING THE CORNEA FOR BLINDNESS FROM DISEASE OF THAT STRUCTURE.
By Dr. BIGGER.*

The blindness from what is deemed incurable staphyloma is of course hopeless, unless some means of substituting a transparent for the opaque front of the eye can be devised.

Removal of that opaque part, and transplantation of a healthy cornea to its site have been thought of by several surgeons in Germany, and both essays and experiments have been resorted to with the view of recommending it. But on the whole, the evidence and authority both leaned against it, when Dr. Bigger, of Dublin, re-opened the inquiry, and prosecuted fresh and more extended experiments for its solution. The results have been published in our Irish contemporary, from whose pages we shall extract enough to put our readers in possession of Dr. Bigger's conclusions.

It is stated that Dr. Bigger has succeeded in rendering the removal of the cornea a safe operation, and easily practicable by a steady and dexterous hand. The following is his method of removing and of transplanting it.

Haxing fixed with a ligature the upper eyelid of the animal from which the cornea is to be taken, he introduces Beer's cataract knife (holding it horizontally, and at first directing it a little backwards, so as to insure its passing through all the layers of the cornea,) with its edge turned upwards, into that part of the cornea situated about a line or more from its most inferior junction with the sclerotic, and about the same distance external to the mesial line of the eye. He then pushes on the knife for the space of one or two lines, inclining the handle so that the point of the knife may be brought forward, and caused to pierce the cornea again, at a distance as small as possible from the point of entrance. The knife should now be pushed on, when it will make as large a section as may be required,

* Dublin Journal, July

which being turned down, is to be cut off with a pair of scissors. The eyelids are then to be closed, to prevent the escape of the crystalline lens and vitreous humour. The excised cornea should be placed on a slip of cork, and the curved needles, carrying very fine ligatures, (two, three, or four in number), should be passed through the cornea and the piece of cork. The latter, which has been chiefly used as a support to enable the operator to pass the needles through the tough layers of the cornea, should then be broken off, and the cut surfaces of the cornea should be kept moistened with some of the secretion from the eye. The surgeon then proceeds to perform the same operation on the eye to which the cornea is intended to be transplanted. Having done this, and closed the lids for a few moments, until the spasmodic action of the muscles of the eye diminishes, the operator proceeds to adapt the cornea to its new situation, and for this purpose, inserts the point of his needle carefully between the margin of the new prolapsed iris and the remains of the cornea, and pressing externally with the nail of the other forefinger against the point of the needle, so as to make it pass through the cornea without dragging or injuring the eye, draws out the needle. To accomplish the latter object, Dr. Bigger was often obliged to use a small forceps, and in this case, the thumb and finger nails of the other hand must be pressed closely and firmly against the cornea on either side of the needle, to obviate any injurious disturbance or dragging of the eye. The ligatures should then be carefully tied, and the ends cut off. Dr. Bigger has found two ligatures to answer the purpose quite as well as four. Finally, the operator clears away any lymph or blood which may have collected on the eye, and concludes the operation by smearing the eyelids with a little spermaceti ointment.

The unsteadiness of animals is a serious difficulty attendant on the operation. The great danger is—injury to the iris. Dr. Bigger performed many experiments previously to his return to Dublin, (he had been abroad). He

then recommenced them, and instituted eighteen more. Of the earlier ones we need take no notice—the latter are deserving of more attention.

The subjects of the first and last we quote from our contemporary. Two rabbits were presented before an evening meeting of the King and Queen's College of Physicians, on the 18th of May last. They were examined with great interest by the members and visitors present, and the degree of vision which one of them evidently possessed, reflects the highest credit on the ingenuity, patience, and manual dexterity of the scientific operator. The results of these eighteen experiments were: in ten, the iris was injured; in eleven, the crystalline lens escaped; in seventeen, union took place between the implanted cornea and the adjacent surfaces in forty-eight hours, so as to admit of the withdrawal of the ligatures, which are always a great source of irritation; in four, three ligatures were employed; in fourteen, only two, and with equally favourable results; in twelve, adhesion of the iris to some part of the cicatrix ensued; in one, sloughing of the cornea and destruction of the eye took place, an event which arose from the cornea being kept for half an hour without applying it, with the view of ascertaining how long it would be likely to retain a sufficient degree of vitality to enable it to unite. Dr. Bigger is inclined to think, that, generally speaking, a delay of this space of time would be prejudicial to the success of the operation, and that it may be always avoided by common dexterity on the part of the operator. Of the whole eighteen experimented on, sixteen recovered imperfect vision.

The difficulty of performing the experiment in such a way as to afford a chance of preserving the transparency of the implanted cornea, was a source of much disappointment to Dr. Bigger, and for a long period he could not succeed in devising any means for this purpose, until after his eighth experiment at home, when he discovered that much benefit might be derived from the local application of bichloride of mercury. A weak solution of this salt,

gradually increased to the extent of three grains to the ounce of distilled water, and dropped into the eye three or four times a day, after the cornea had become adherent, was found by him to exercise an almost specific action in diminishing the opacity of the implanted cornea. He had made several trials with iodine and the nitrate of silver, but found that although they improved the appearance of the cicatrix, they did not appear to act upon the milky state of the cornea. The only caution necessary to be observed in using the corrosive sublimate is, to begin with a weak solution of it, and not to use it until the implanted cornea is perfectly united to its new connexions.

Of the two rabbits exhibited to the meeting, one, the first, had been left to Nature—the second had been treated with the bichloride of mercury. Nine months had elapsed since the operation in the instance of the first—ten weeks in that of the second. The advantages were immensely on the side of the latter, in which the power of vision seemed distinct, and nothing indicated the transplantation of the cornea but a slight line in the situation of the cicatrix, and some degree of conicality in the cornea itself.

There are a few desultory observations made in reference to the operation, which it is as well to notice.

a. One experiment accidentally convinced Dr. Bigger of the advantage derived from removing no more of the diseased cornea than is absolutely necessary, as the sound portion which remains may enact a very useful and important part in the reparative process. In this case, the iris was attached to the inferior angle of the cicatrix. Dr. Bigger has observed this in many of his experiments, and attributes it to the predominance of inflammation in the inferior part of the eye, a fact which he has noticed on numerous occasions."

b. "With reference to the applicability of the operation to the human species, Dr. Bigger observed, that he thought that in man the chances of success would be greater, at least so far as steadiness during the operation, avoid-

ance of injury, and other obvious circumstances might contribute to that desirable end. With respect to the animal from which the cornea would be taken in the case of the human subject Dr. Bigger has not yet decided, and invites the attention of comparative anatomists to this point of the investigation. The animal whose cornea he has found to make the nearest approach to that of man is the pig; it is, however, much thicker and coarser in its texture. In a spirit of just and humane feeling, he deprecates the removal of the cornea from the human eye, even when permitted for gain by the possessor; but thinks that a person afflicted with incurable amaurosis might be prevailed on to part with his pellucid cornea, which might be replaced by one taken from some of the inferior animals. He thinks however, that the operation should not be sanctioned under any circumstances, when the patient enjoys even a tolerable degree of vision with the other eye, at least until our knowledge has been increased by further experiments and observations. He is of opinion that cases of blindness caused by small-pox, ulcers on the cornea, and ophthalmia not affecting the deeper structures of the eye, would be the most favourable for operation."

Such are the main portions of this, not uninteresting paper. Our ophthalmic brethren will judge for themselves. We must say that we do not anticipate much from the operation in the human subject. It is one thing to remove the cornea from the sound eye of an animal, and another to remove it from a staphylomatous one. This will augment the difficulties of the operation in the human subject.

Its dangers are not inconsiderable. They would appear to be—adhesions of the iris to the cicatrix—injury of the iris—escape of the crystalline lens—opacity of the transplanted cornea—deep seated inflammation of the eye—sloughing of the transplanted cornea.

When we sum up the many difficulties and the considerable dangers, we fear we must not reasonably anticipate from the operation any more than the possibility of some benefit in a rare and

lucky case. But it will give us sincere pleasure if our own unfavourable anticipations shall turn out to be unfounded. Whether the operation succeeds or not there can be but an unanimous opinion with respect to Dr. Bigger. He deserves the highest praise for his philanthropical zeal.

ON VIOLENT PULSATIONS IN THE
EPIGASTRIC REGION. By W. FAUSSETT, A.B.*

This is rather a long, we might say rather *too* long a paper. Professing to discard speculation, the author very liberally speculates. We may safely venture to shew in a few extracts all that is of consequence.

It is well known to our readers that Dr. Baillie first drew attention to the not unfrequent occurrence of epigastric pulsation independently of any aneurysmal dilatation of the aorta. Since Dr. Baillie's time most physicians and surgeons must have had opportunities of verifying the general correctness of his observations. But Mr Faussett quarrels with them, and substitutes, as more correct, the following description of his own.

"The complaint is most apt to occur at the middle period of life. Dr. Baillie knew of but one or two instances of it in persons so young as thirty. I have, however, known three cases of very severe epigastric pulsations occurring, one of them at twenty, the others between twenty-three and twenty-five, all of them in unmarried females, and in the better order of society. According to Dr. Baillie's experience, it was more commonly to be found in men than women; but this, I believe, is the reverse of what other practitioners have met with. The rich and poor are alike subject to it. The digestive organs are always deranged in their functions; the bowels are torpid, and the feet cold: in some cases, there is considerable constitutional derangement, with headach,

vomiting, emaciation, lowness of spirits, and prostration of strength. There is *in every case*, pain, on pressure of the pit of the stomach, or towards the umbilicus; and, *in every case*, a considerable fulness, sometimes amounting to tumour. The pulse at the wrist is usually perfectly natural and regular in its beats; in a few cases, however, it is accelerated. The pulsations are marked by different degrees of strength in different individuals, and vary also in the same individual. They come on, most violently, in the afternoon, or some time after dinner, there being in some degree, a remission in the morning. They are exceedingly distinct in the erect posture, but perhaps still more so in the horizontal. They are frequently visible to the eye, often indicating, as Dr. Baillie observes, the boundary of the artery as far as the umbilicus. In some of the severe cases the degree of vital depression is truly remarkable; and where the head is engaged, there is not only uneasiness complained of there, but a sense of weight, fulness, tightness, or throbbing. In one case, where the epigastric pulsations were thought lightly of, or indifferently treated, the patient, who was personally known to me, died of hydrocephalus; and it is worth remarking, that Dr. Baillie's ill-fated patient, already mentioned, and in whom, perhaps, the pulsations occurred in a more moderate degree, ultimately became the subject of paralysis."

We have seen several cases, as well as our neighbours, of epigastric pulsation. Certainly pain at the epigastrium has not, in our experience, been universal. From Mr. Faussett's observations, and from the cases he narrates we suspect that the subjects of the affection which he describes have been principally females affected with those anomalous hysterical symptoms, which ape all maladies. In such females, epigastric pulsation, as well as cardiac palpitations, are frequent, and in them, too, of course there is epigastric tenderness. We say of course, because such patients have tenderness in any part to which attention is directed. We offer these observations

* Dublin Journal, July 1837.

that our readers may make what allowances are necessary in reading Mr. Faussett's descriptions.

He enters into reasonings more elaborate than conclusive, and more hypothetical than satisfactory, to prove that in cases of epigastric pulsation there is congestion or chronic inflammation of the viscera, implicating the ganglionic nerves and plexuses—and that such congestion plays a main part in the production of the morbid pulsation.

This view is not entertained for nothing. It is the foundation of his practice. The following is an account of it.

"If we admit this view of the subject, the treatment comes easily to be inferred; but the fact is, that this view of the complaint, imperfect as it is, has in itself been derived in a large measure from the results of treatment. '*Ubi irritatio, ibi fluxus est.*' was an axiom of the illustrious Celsus: and in so many words affords a rationale of cure, wherever irritation has been followed by determination of blood and congestion, or inflammation. The plan of treatment which I wish to refer to is as follows: local bleeding by cupping and leeching, (a combination of these, leeching first and then cupping, answers the purpose well.) In a few cases general blood-letting is necessary, viz., those in which the symptoms are severe, and local abstraction of blood has been employed in vain, or where the pulse seems to warrant the practice; or without this criterion, where there is a sense of tightness, fulness, or uneasiness in the head,—in any modification of such cases, venesection from the arm to a moderate extent, may be practised with safety, the relief afforded the patient will be striking, and the blood will often be found buffed, and even cupped. After local bleeding, counter-irritation by means of antimonial ointment, or the croton oil, rubbed over the epigastrium, or between the shoulders, may be employed with benefit. The state of the digestive organs demands particular attention, if an obstruction be suspected in the arch of the colon from an accumulation of feces there, or in any other part of the

intestines, a tolerably active purgative had best be first exhibited and mild aperients afterwards. But as soon as local bleeding has been first practised, and the bowels moved, we should at once have recourse to the use of blue pill, combined with sedatives and James's powder, or hippo, and give it twice or thrice daily, until the mouth becomes slightly affected. The inspissated juice of cicuta, or henbane and hippo, are what I have conjoined with blue pill, and derived the greatest advantage from. If the urgency of the symptoms demand it, and it be thought desirable to expedite the effect of the mineral upon the mouth, mercurial inunction either to the inner part of the thighs, or over the abdomen, should be resorted to, for it will invariably be found, the moment the gums become tender, and seldom before this period, that all the symptoms are mitigated. A strict regimen must be also enjoined; meat, wine, and stimulants, must be forbidden, and contrary to what is imagined, and usually practised, the patient's diet should be made to consist of milk, and farinaceous vegetables; barley, arrow-root, sago, &c. &c. In the course of a few days, (averaging at about a fortnight,) and often contemporaneously with the mouth becoming sore, it will be found that the epigastric pulsations have ceased, that the appetite and digestive functions have improved, the patient's spirits returned, and a general renovation taken place in his state of health."

This treatment, it must be confessed is somewhat active—local, nay general bleeding—counter-irritation—salivation—low living are the means which hang on his inflammatory theory. And, considering that the cases are, according to his own shewing, principally those of young unmarried females, such means are not to be lightly used.

For our own parts, we must own that in every case of epigastric pulsation we endeavour to discover the cause in *that* case, and, having discovered, to remove it. Such treatment must necessarily be discriminative, and we should pause before we applied the powerful remedies advised by Mr.

Faussett to females of a "hysterical" habit. But we leave the matter to our readers.

MEDICINE IN AMERICA.*

The America Periodicals before us are the two Numbers of the American Journal of the Medical Sciences—one for February and one for May of the present year. These are all we have received for some time, and our notices of American Periodical Literature must be limited to their contents.

I. CASES OF ANEURYSM, CURED BY OPERATION. By M. MORRISON, M.D. &c. &c. of Buenos Ayres.†

Dr. Morrison relates six cases of aneurysm, cured by operation. He relates none of failure: either, we suppose, because none, in his hands, have failed, or because they were not *so* interesting as the successful ones. Of the six cases which he does relate, one was an instance of femoral aneurysm at the upper part of the middle third of the

thigh—one was a femoral aneurysm just where the femoral artery passes through the sheath of the triceps—two were cases of popliteal aneurysm—one was a case of inguinal aneurysm—and one was a case of aneurysm of the root of the right carotid and arteria innominata.

The first and the second cases are the only ones that require particular notice.

1. Femoral Aneurysm—Femoral Artery tied just below the origin of the Profunda.

August 10, 1832. Don Luis Sagari, æt. 24. The tumor was large and diffusive, and situated on that part of the artery, which is in general the point of election made by surgeons for applying the ligature for the cure of popliteal aneurysm. The tumor pulsated and became very painful when prest upon. There was a difference of opinion among the surgeons who had already seen the patient, as to the propriety of tying the femoral artery above or below the *arteria profunda*. This man had been confined to bed, and been subjected to the plan of Valsalva, and local pressure had been made on the tumor with a bandage and compress, without any permanent benefit. The patient was reduced in flesh, in spirits, and of a consumptive family. The inguinal glands of the affected side were very large, a circumstance which determined Dr. Morrison to operate below the origin of the profunda. This he did on the 20th of September, and the patient did well. The ligature came away on the 22nd day.

The interest of the case consists in the non-occurrence of secondary hæmorrhage, after the operation of tying the femoral artery, a short distance below the origin of the profunda. But the spot at which this vessel springs from the trunk is so various, that too much stress must not be laid on such a case.

2. Successful Operation beyond the Aneurysm.

Aneurysm of the Root of the Right Ca-

* We are extremely anxious to put our English readers in possession of the valuable facts which medicine owes to our brethren in America. But our supply of the American Journals is both scanty and irregular, and it is impossible to do justice to them or to their noble country, unless some better means of transmitting their periodicals and works are hit upon. Ever and anon, it is true, there comes a pamphlet or a book, by post, with the moderate charge of two or three or four pounds sterling. A little consideration would convince our American friends that this is killing us with kindness, and that no Editors could survive such doses *if* they swallowed them. The fact, indeed, is, that we cannot and we do not swallow them, and, reluctantly enough, we are obliged to return such packets to the postman.

We intreat American editors and authors to look to this. It is for the advantage of science that their labours should be known in the Old World.

† American Journal for Feb, 1837.

rotid and Innominata. Right Common Carotid successfully tied.

On the 4th of November, 1832, Dr. Morisson was summoned to Don José Hurruz, æt. 42, who had more or less been confined to bed for nine months. He had pain in the cardiac region; difficulty of breathing, which was increased to a painful degree by walking a distance of a few squares; rheumatism of the right shoulder, and of the muscles of the neck of the same side; hemicrania of the right side; and a large pulsating tumor extending itself upwards from within the cavity of the thorax, and obliquely outwards behind the sternal extremity of the *sterno-cleido mastoid* muscle.

The tumor, when pressure was made on the carotid above it, did not diminish perceptibly, but the pulse at the right wrist became fuller and stronger. When pressure was made on the right subclavian, the tumor pulsated more strongly, as likewise did the temporal and facial arteries of the right side. From all these circumstances, Dr. Morisson concluded that the case was one of aneurysm of the root of the right carotid and arteria innominata.

The same opinion was subsequently formed again in consultation, between Dr. J. M'Donnell, and Don Mariano Bico, Surgeon-General. The nature of the case was represented to the patient, and the advantages and disadvantages of the operation of tying the common carotid artery *beyond* the tumor were fairly represented to him. He determined to take the chance which the operation gave him, and this was performed on the 8th instant, in presence of the gentlemen just mentioned. He was first bled, and had a dose of salts.

The operation was commenced by making an incision, extending from a point on a line with the top of the larynx downwards along the internal margin of the *sterno-cleido mastoid* muscle, as far as possible without endangering the superior margin of the tumor. The dissection being continued, the *homo-hyoideus* was exposed, and the sheath which involves the primitive carotid and jugular vein, laid bare. The patient now became pulseless, and to

revive the powers of life a draught of undiluted wine was administered. Upon the recovery of the patient from this state, the sheath of the great vessels was raised with a dissecting forceps, and divided with a scalpel. An aneurysmal needle, armed with a flat silk ligature, was passed under the artery, and the vessel secured by the ligature. The wound was brought together by the interrupted suture, dressed with adhesive straps, carefully bandaged, and the patient put to bed.

In the afternoon the patient complained of being much distressed by hollow sounds in the right side of his head; the pulsation in the tumor was tremendous, and by reason of communicating its motion to the shirt collar, the number of pulsations could be taken at some distance from the bed: the artery at the wrist being full and hard, and his skin hot and dry, Dr. M. bled him to 16 ounces.

Next day, the tongue was loaded, the pulse strong—*salines*. In the evening, it became stronger, and was 110. V.S. *ad 3x*.

Saturday 10th, passed a restless night, suffered from pain in the right side of the head; pulse 100 and soft. The saline cathartic to be repeated.

11th. The tumor pulsates strongly; some tenderness in the region of the wound; pulse 100; skin moist.

12th. Dressed the wound, the greater part of which had healed by the first intention; pulse 98 and soft.

13th. Pulse 94; wound doing well.

14th. Pulse has risen to 108. V.S. *3viiiij.*, which produced fainting.

15th. Pulse 100 and strong; twelve leeches applied to the region of the heart.

16th Digitalis and nitre were prescribed, but in consequence of the constitutional disturbance produced by their exhibition, they were discontinued.

17th. The tumor was tender to the touch; from this date the pulsation in the tumor became weaker, the tumor itself began to harden and to diminish in size; the only symptom that afterwards required treatment was the rheumatic pain of the back of the neck and shoulder.

About the begining of December the patient sat up to his meals; and on the ninth of the same month, being the thirty-second day from the operation, the ligature came away.

Hurruz, after his convalescence, laboured hard at the making of charcoal. Dr. Morriison saw him from time to time, and he continued well until the latter end of June, 1834, when he complained of an oppression in the chest, accompanied with slight cough. On the 4th of July following, after walking some distance, he fell down dead.

Dissection. This was made next day in the presence of Dr. M'Donnell.

"The sternum, together with the cartilages of the ribs being raised, the right subclavian artery was traced to its source, at which point it was partially dilated. The *arteria innominata* was double its ordinary size, and studded with spicula of ossific matter.

The right carotid, from its origin to the point to which the ligature had been applied, was dilated into a sack, which was plugged up with a dense fibrous deposit. The portion of the tumour which was within the chest, was much more voluminous than that which rose into the neck.

The anterior surface of the thoracic portion of the tumour was firmly adherent to the sternum. There never was a more splendid specimen than this, showing the manner in which Nature cures this formidable disease when assisted by art.

The lungs were free of adhesions, and of a healthy appearance; the heart itself presented nothing uncommon in its external aspect, but upon dissection it exhibited evident marks of inflammatory action, particularly in its ventricles; the semi-lunar valves at the origin of the *aorta*, were indurated from a deposit of ossific matter; the arch of the *aorta* was completely ossified and considerably dilated. The pericardium contained from 8 to 10 ounces of serum."

It appears that the preceding was an instance of aneurysmal dilatation of the arch of the *aorta*, aneurysmal dilatation of the *innominata*, and an aneurysmal sac at the origin of the right

common carotid; the coats of the vessels were diseased, and the semi-lunar aortic valves were more or less ossified. We must be excused from yielding entire assent to the declaration that the lining membrane of the heart was inflamed. No unequivocal effects of endocarditis are mentioned, and it is possible, nay, from the circumstances, it is probable that the "inflammatory appearances" consisted merely in redness, the result of staining.

The case must, on the whole, be regarded as favourable to the operation of tying an artery beyond an aneurysmal tumor. The aneurysm at the root of the carotid would certainly appear to have been cured, or to have advanced far towards cure, and we must presume from the details of the case that this was greatly owing to the operation.

At the time when Mr. Wardrop directed public attention to the ligature of arteries beyond an aneurysm, we strongly supported the proposition that, of all arteries, the common carotid was most favourably circumstanced for the performance of the operation. We argued, too, that when the disease consisted of an aneurysmal sac, it was more likely to be cured, than when it was simply an aneurysmal dilatation, coagulation of the blood taking place with most facility in the former case than in the latter.

When the propriety of extending the operation to cases of dilatation of the *innominata* was insisted on, we took occasion to express our suspicion that it would be found inapplicable to that disease. The flow of blood through the *innominata* and subclavian would continue, and there would not be sufficient retardation of the circulation to permit the contraction of the dilated vessel.

The case before us bears out these views to the letter. The operation of tying the common carotid *cured* the aneurysmal sac between the ligature and heart—but did *not* cure the dilatation of the *innominata*.

The case too proves another thing—the necessity of ascertaining, so far as auscultation will enable us to ascertain it, the condition of the *aorta*, the heart,

and its valves, prior to performing operations for aneurysm especially for aneurysm in the cervical region. It is quite evident that the existence of more and of other disease than is apparent, or than we count on, must materially diminish the chances of success from any operation on the great vessels—and not only must it diminish the probability of ultimate success, but it must increase the immediate risk. Yet we have seen surgeons determine upon tying the larger arteries without ever ascertaining or making any precise inquiry into the condition of the heart and the aorta; an omission pregnant with danger.

II. OBSERVATIONS ON THE TREATMENT OF PUERPERAL CONVULSIONS.

By W. DENNY, M.D., of Ellicott's Mills, Baltimore County, Maryland.*

Dr. Denny displays a degree of candour, which, unfortunately for medicine, we do not often see—he not only relates unsuccessful cases, but he forcibly points out what he deems his fatal errors in their treatment.

His object is to shew that depletion by the lancet may be carried much too far in cases of puerperal convulsions. His paper is a long one, but two or three extracts will give the *points*, and those are what our readers want.

He first cites the opinions and the rule of action of Professor Dewees:—"If it should be asked," says the Professor, "what quantity of blood should be drawn in any given case? I answer: I do not know by ounces—I bleed until I abate the severity of the fits, or until I arrest their repetition."

With such emphatic words ringing in his ears, Dr. Denny met with cases of puerperal convulsions. Six occurred to him. He details them all; but the following summary which he himself gives of them, and the one which we shall quote to illustrate his commentary and to explain it, will be sufficiently instructive.

"In subjecting to review my own

proportional amount of puerperal cases, complicated with convulsions, I have sins of commission and omission to confess. But an impartial witness will present to the tribunal at which he appears, the whole truth he possesses in the matters before it; and if the facts detailed bear the inferences I draw, and shall lead but one practitioner in a single case to profit by my exposition, I shall not have intruded on these pages in vain.

In my first case, I endeavoured to bleed *enough*, but was prevented by the circumstances stated, from succeeding. No meddlesome midwifery, however, was practised. This patient may be considered to have died from the repletion or excitement which caused the convulsions, not having been reduced by sufficient detraction of blood.

The second case presented indication that the apoplectic species was at hand. This was correctly and timely met by a free venesection. My first error was to leave this patient during the temporary calm, in place of waiting to strangle reaction at its inception. Reaction came on uncontrolled; but, because of the first bleeding, the form of attack was reduced to epileptic. The use of the lancet, a second time, gave earnest, on my part, of the employment of energetic measures. Another convulsion was the signal to bleed again freely—too freely! This was the second error, but it was in obedience to the rule to bleed according to the severity or repetition of the fits. Believing that depletion had been carried to its utmost justifiable extent, I followed the ideas of those who look on speedy delivery among the means of combating the disease. I reasoned thus:—Gestation is one of the causes of puerperal convulsions—parturition is its only favourable termination. Now, as there are here no natural pains of labour, I must deliver artificially, which was done without hurry or violence. This interference constituted error the third.

There was no ground to anticipate danger in the third case, as I recognized no premonition. The lancet was used freely in the shortest possible period, after the access; I bled till the

* American Journal, Feb. 1837.

approach of syncope. What began as impending syncope, ended in convulsion. An improvement ensued, viz. spontaneous delivery. The third convulsion was severe, but it came on with signs of subdued arterial action, and I bled no more. In the propriety of this forbearance two medical friends, who visited the patient with me afterwards, fully concurred.

Sustained and commended by their authority, it would not be strange if, by this case, I should have gained some reputation among the friends of the lady; it would not be as much so, if I laid claim to the sustentation and commendation bestowed. But candour obliges me to see one error, viz., I bled a little too far or too rapidly, and, when I threw aside the rule of treatment quoted from Dr. Dewees, and withheld the lancet, it was under the stern and intelligible facts before me, that syncope had ushered in the second convulsion, and that syncope was the result of depletion; consequently, to deplete further, would be to aggravate the condition of the circulation, on which syncope depends, and I might fasten the convulsions upon her, instead of removing them.

In the fourth case, I suffered the precursor to pass without adopting measures of prevention, practised ultra-depletion, and then used the forceps. Here are three errors.

My treatment of this affection was thus far unsuccessful and unsatisfactory. I had lost my confidence in the infallibility of the lancet, and was not in possession of any substitute. I had no right to doubt that bleeding was an important remedy; but why has it failed in my hands, under a rule of treatment which has obtained for it signal triumphs in the hands of others? Is there not danger from excess in bleeding? We have ceased to prescribe other remedies for the names of diseases, and we regulate their application to conditions of the system. Why shall this agent be excepted from the improvements of our day? Shall we shed blood in puerperal convulsions because of their severity or recurrence, when it is known that a similar train of symp-

toms is often the consequence of hurtful waste of the vital fluid?

When the fifth case presented itself, under circumstances which allowed me to act free from agitation, I depleted with more legitimate aim, viz., to reduce the vigour of the circulation into moderate bounds, and to avoid carrying the practice to an opposite extreme. Dr. Copland says that the arteries of the lower extremities pulsate with diminished force and volume, while those of the upper and head are strong and active. But I have found the radial pulse convey no information of the excitement present. In the fifth patient this was the fact. I therefore turned to the signs afforded by the central organ of the circulating system, and found a guide. The treatment has been detailed, and the favourable issue of the case seems to confirm my reasoning.

In the sixth case, the same therapeutics procured the same happy result."

It is the fifth case which we have singled out for narration, because it was successful, and because Dr. Denny conceives that it exemplifies more appropriate treatment than unflinching abstraction of blood will prove.

Case. On April 4, 1835, Dr. D. was summoned to a German woman, Mrs. — æt. 20. It was her first pregnancy; she was bloated, and lay comatose. As the husband and relatives spoke little but German, Dr. D. was unable to obtain accurate information.

"I gathered from them, however, that she had had eleven convulsions. I determined to wait for a repetition, to decide whether the attack might not turn out to be hysterical; if so, I thought, there is but little danger, and if epileptical, she can scarcely be saved by any means. The pulse at the wrist was small, and almost countless; but the heart impinged powerfully against the parietes of the thorax. She soon had another fit, which I recognised as the more formidable species. Under all the circumstances, my judgment was cool and deliberate. I drew blood to command the action of the heart, but guarded cautiously against syncope, or

that collapse of the powers of the circulation which may have resulted from ultra-depletion in the 2nd and 4th cases above detailed. In depleting, therefore, I took the action of the heart, not the severity or repetition of convulsion as my index. During the flow of blood she had a thirteenth convulsion, and I noticed that increased tumult of the heart preceded its approach. Having closed the vein, I observed the thumb of one hand contract quickly but feebly towards the palm, and, coincidentally, the heart pulsated again more violently. I drew two or three ounces more of blood, stopping as soon as the inordinate palpitation subsided. A bystander remarked, that she was sure the last bleeding prevented another fit, as she observed a flickering of the features, such as had preceded the previous ones; I had looked at the thumb, she at the countenance, both had discovered signs of an impending paroxysm, but each was ignorant of the indication observed by the other.

Labour-pains now came on vigorously, and in about four hours she gave birth to a still-born infant; the secundines followed, and the uterus contracted duly. I ought to mention that the head became stationary for some time near the outlet, that I applied the forceps, started it from its resting place, and then allowed nature to complete the process. During these four hours she moaned and uttered complaints in her native tongue, so that I could not judge by her ejaculations, whether her intellect was impaired or not. She did not reply, however, to some questions put to her by her husband, at my request, with the view to discover the return of mental energies.

Immediately after delivery, she fell into a deep and quiet sleep, her pulse somewhat feeble; stroke of the heart distinct and normal; respiration full and equable. The next morning I found her better than I expected, and nothing occurred during the two or three weeks of getting up to embarrass perfect recovery."

She has since been happily confined, and given birth to a living female child.

The following short passages embody

our intelligent and candid author's conclusions, with respect to the line of practice to be followed.

"I accord, then, with the magnates of obstetrical science, in the great importance of bleeding in the attack of puerperal convulsions of tonic origin. I would practice it, however, with a strict watch over the radial and carotid pulsations, as well as the stroke of the heart. My patient should keep a horizontal posture. I would draw blood at first freely but slowly, and with intervals of interruption towards the last. The lancet is the grand remedy; there may be adjuvants; the cold dash to the head might be placed next to the lancet. Some have recommended *secale cornutum*. It might be given here where the parturient efforts were inefficient, and other circumstances did not forbid its use."

"In cases where the convulsions occurring after the commencement of labour have been subdued, and labour-pains do not recur, I should certainly prefer the ergot, circumstances permitting its use, to pure artificial delivery, for of this I have seen enough to deter me from its repetition.

The fœtus being delivered, I would take great pains to ensure due contraction of the uterus, as preventive of hurtful sanguineous loss. I would enforce on the patient and her nurse that quietness from every exertion was of the highest importance; and finally, other circumstances being equal, she should be more guarded in her diet, and postpone her rising from bed to a later period than in ordinary uncomplicated parturition."

III. SUPPOSED NEW VIEWS OF CERTAIN DISLOCATION. By S. ANNAN, M.D. of Baltimore.*

1. *Reduction of a Dislocation of the Head of the Humerus into the Axilla, by the Foot on the Acromion.*

After examining the muscles which oppose reduction of a dislocation of the head of humerus into the axilla, and criticising the usual methods of applying

* American Journal, February, 1837.

extension and counter-extension, Dr. Annan proposes his own plan in the following terms.

"The best plan of reducing this dislocation we believe to be to place the patient on his back on the floor, or on a bed or table. The floor is preferable as the surgeon can apply the forces more conveniently. The surgeon should take a seat beyond the head of the patient, place his foot on the top of the shoulder, and, grasping the wrist, draw the arm towards him, which, if the patient was in the erect position, would be directly upwards. The foot pressing upon the spine of the scapula and the clavicle fixes the socket immovably, and thus we have the counter-extending force applied more advantageously than it can be by any other method, while the extending force draws the head of the bone from its situation below the glenoid cavity in the direction best calculated to restore it to the place from which it has escaped; and at the same time the point of the acromion process acts as a fulcrum to throw it out of the axilla, and afford it a favourable opportunity to slip over the projecting inferior margin of the glenoid cavity. The muscles too, which usually offer the most resistance, especially the deltoid and supra spinatus, are relaxed in the greatest possible degree; and indeed to that extent that they make no resistance whatever. The supra spinatus, if it acts at all, will assist in drawing the displaced bone in the proper direction, for restoration to its natural position. Another advantage is, that counter-extension and extension are not both applied to any of the muscles. The force which fixes the scapula, being made to press upon the top of the shoulder, does not act upon any of the muscles concerned in this dislocation, and the only muscles upon which the extending force acts at all, and which will make some resistance, are the latissimus dorsi, and teres major, and the inferior margin of the pectoralis major, where it arises from the cartilages of the fifth, sixth, and seventh ribs, and the lower part of the sternum. The resistance of these is insignificant."

Our able contemporary, the editor of

the American Journal, shews very decisively that this mode of reduction is not new. It was proposed by M. Mothe, in his *Mélanges de Médecine et de Chirurgie*, published in 1812. By one of his methods (for he recommends two), the patient is laid on a low bed, near its edge, with the dislocated arm on the outer side. The surgeon seated on a low chair above the patient's head, seizes the dislocated arm, draws it upwards in a line parallel to the axis of the body, whilst at the same time he fixes the scapula with his foot placed upon the acromion process.

This plan, as our contemporary observes, is identical with that of Dr. Annan.

We have never seen this mode of reduction put in practice, and we cannot therefore speak to its advantages or disadvantages in comparison with those of the ordinary procedures. But we are sure, that, with proper care, the latter are in common cases very simple, very successful, and by no means hazardous—and, in old unreduced dislocations, it remains to be seen whether the plan of MM. Mothe and Annan is possessed of any real superiority. It gives us, however, another string to our bow.

2. *New mode of reducing a Dislocation into the Ischiatic Notches.*

If there are any of our readers who have forgotten their anatomy, it may be worth while hinting that the two sacro-sciatic ligaments, with the spinous process of the ischium, divide the great sacro-sciatic notch into two foramina—the upper larger—and the lower smaller one. If the head of the femur is dislocated into the former, the limb is a little, and but a little shortened—if into the latter, the limb is considerably lengthened. The first of these two kinds of dislocation is more frequent than the second.

If there are any of our readers who have not by heart Sir A. Cooper's Treatise on Dislocations, it may be worth while hinting that that veteran surgeon recommends for the reduction of the first kind of dislocation, we may say (for he does not, remedially speaking, distinguish them) for both kinds,

the plan we are about to mention. The patient to be placed on a table on his side—the pelvis to be fixed by a girth between the pudendum and inner part of the thigh—a napkin to be carried under the upper part of the thigh, and either pulled up by an assistant, or raised by being passed across his shoulders, while he forcibly elevates his body;—extension from above the knee, the dislocated limb, while extended, being directed across the middle of the sound one.

To this plan Dr. Annan urges several objections, which we need not enter on, but content ourselves with quoting the method which he advises in its stead. We should observe that this method is advanced by its author as peculiarly applicable to the dislocation into the lower notch, that in which the limb is lengthened.

“The principle of our method is the same with that recommended, by Sir A. Cooper, for dislocation into the foramen ovale, viz. lateral extension to the exclusion of longitudinal. The patient should be laid upon his face on a table; the pelvis secured by a band passing around it, and going off laterally from the sound side to be fastened to a post or a ring fixed in the wall; another band should be put round the upper part of the thigh of the injured limb, which should be given to the assistants, who are to make the extension; or have the compound pulley fastened to it, if it is to be employed. If the limb is lengthened, the bands should be so adjusted that the extension can be made a little upwards as well as laterally, which will move the head of the bone in a direct line towards the acetabulum, and by a gentle rotation outwards it will be replaced. Sometimes it may also be necessary to push the limb upwards.

“When the limb is shortened, which happens where the luxation is into the upper notch, the apparatus should be adjusted in the same general manner; but the bands, instead of being directed downwards and upwards, should pass off from the body at right angles with the trunk, and the extending band should

only be tightened, so as to act as a fulcrum upon the upper part of the thigh. The ankle of the dislocated limb should then be taken hold of, and be drawn over the sound limb, which will force the head of the bone out of the notch, and make it describe the segment of a circle, and pass a little downwards in the direction of the acetabulum, and thus be speedily replaced. Care must be taken that the extending band is sufficiently tightened, and also, that it does not yield; otherwise the drawing of the leg across the other will only move the head of the bone in the notch as if it was a joint. If lateral extension only was employed in this case, the head of the femur would be drawn out of the notch; but it would be upon the dorsum of the ilium, above the acetabulum. Whereas, by simply drawing the limb laterally as much as is required to make the extending band serve as a fulcrum, and then using the leg as a lever, the head of the bone is not only forced laterally, but moves downwards, and must necessarily pass into its socket.

“Besides fulfilling the two general indications of fixing the socket, and causing the head of the displaced bone to move towards its natural cavity, (there are no muscles that require to be particularly relaxed,) if the pelvis is examined, it will be found that instead of its being necessary to raise the head of the femur *up over* the edges of the acetabulum, there is a continued descent along an even surface, thus affording the greatest possible facility for reduction. It is very apparent, too, that when longitudinal extension is made, it must be much more difficult to move the bone laterally than when it is dispensed with.”

It is proper to observe that this mode of operating has not hitherto been put to the test of experience. It is right that surgeons should be made acquainted with it.

IV. SUCCESSFUL LIGATURE OF THE INTERNAL ILIAC ARTERY, FOR ANEURYSM EITHER OF THE GLUTEAL OR THE ISCHIATIC. By VALENTINE MOTT, M.D. &c.*

The reputation of Dr. Mott, as an operator, stands high in the Old World and the New, and we regret to hear that ill health has compelled so able a surgeon to retire for awhile from the exercise of his profession. May that retirement be brief.

Dr. Mott has added another laurel to the crown already on his brow. He has tied the internal iliac artery with success. That operation has been twice performed for gluteal or ischiatic aneurysm, with the happiest effects—once by Dr. Stevens—and once by Dr. S.P. White, of Hudson, New York. This therefore, makes the third fortunate case.

Case. New York, December, 1834. Richard Charlton, the patient, is a coloured man, born in this city, and about 38 years of age. He has worked in a grocery store. He first felt the symptoms of his disease in the Summer season of 1832;—during the cholera then prevalent he had a diarrhoea, and while making frequent straining at stool perceived a swelling and pulsation in the right buttock, which has gradually increased until this time. It is now about the size of a goose egg, and contained only fluid blood.

On the 29th December, 1834, at noon, Dr. Mott proceeded to tie the right internal iliac artery, in the presence of Drs. I. Kearney Rodgers and A. E. Hosack, and assisted by Drs. Vaché and Wilkes. The incision, which was fully five inches long, extended from a spot on a line with the umbilicus, about midway between the linea alba and the anterior superior spinous process of the ilium, to within half an inch of Poupart's ligament, and then curved forward an inch over the course of the spermatic chord. The operation lasted about 45 minutes, owing to the

almost irrestrainable intractability and frantic restlessness of the patient. His great straining and jactitation caused the operator to make a small opening in the peritoneum, whilst separating it from the iliacus internus muscle. The peritoneum and intestines being drawn up and supported by a large curved spatula, the internal iliac artery was readily seen, crossed by the ureter, which was easily pushed aside. The filamentous tissue was quickly separated by the fingers from about the vessel, and the ligature conveyed under it by the American needle. At the moment of tightening the knot the hand was applied to the tumour, in which all pulsation immediately ceased, and which itself almost entirely disappeared directly after. The patient, being put to bed, took twenty drops of a solution of morphine, and in the evening was easy.

December 30. Had a good night's rest, and was comfortable in the morning. Some excitement coming on early in the afternoon, he was bled from the arm to about xxviii , and took a solution of sulph. magnes. in divided doses. *Evening.*—much easier; salts had not operated. Directed an enema, and applied a strip of blister plaster around the wound.

He passed a good night, and next day he was doing well. The enema gave rise to too frequent stools, and an opiate injection was required on the 1st of January. On the 3d, although the abdominal tenderness was gone, the blister was reapplied, and panada and arrow-root were allowed.

On the 9th, the sutures were removed from the wound, which was much closed.

On the 42d day the ligature came away.

The patient recovered completely, and having lived as a domestic in the family of Dr. Mott for seventeen months, he then quitted it to become a coachman to a gentleman of New York, which situation he held in perfect health at the date of the report, in Nov. 1836.

* American Journal, May, 1837.

V. CASE OF CONGENITAL ENLARGEMENT OF THE TONGUE REMOVED

BY OPERATION. By THOMAS HARRIS, M.D., Surgeon to the Pennsylvania Hospital, &c.*

Case. R.R., aged 19, consulted Dr. Harris, in May 1835, on account of an extreme enlargement of the tongue. Dr. H. learnt that at birth his tongue was enlarged and slightly protruded without the maxillary bones, so as materially to interfere with the process of suction. When about a month old, the tongue greatly increased in size, and so far projected from his mouth as to produce considerable deformity; since that period it had grown with his growth.

"When I first examined the case, the tongue projected beyond the upper incisors three inches—circumference six inches—vertical thickness one inch and a half. The tongue exhibited a violet colour; was of a hard and incompressible consistence, covered with a dark slimy secretion, and that portion of it without the mouth was much larger in volume than that within. The weight of the tongue pressing continually on the inferior incisor and canine teeth, gave them a horizontal direction forwards; and at the same time drew the os hyoides and larynx upwards and forwards.

On examining the inferior maxilla, the rami were found much shorter than natural; half an inch at least less in length than that of his brother, who in all other respects was of the same size. The angle of the jaw was unusually obtuse, and the molar teeth were rather longer than natural. By these alterations in the conformation of the parts, the patient had so far overcome the inconvenience arising from his projecting tongue, that the molars could be readily brought in contact, and thus the process of mastication could be performed, and deglutition effected almost as well as if no deformity existed. He was obliged, it is true, to cut his food in small pieces, and introduce it at the side of his mouth." From this the saliva continually dribbled.

At the end of a week, Dr. Harris

performed the operation, having previously extracted the inferior incisor teeth.

"I first elevated the tongue, and dissected it from the floor of the mouth, about three-fourths of an inch behind the anterior part of the jaw, and then introduced a strong straight bistoury, commencing where the first incision terminated, and pushed it through the organ between the median line and the left raninal artery, and drew it forward and laterally, so as to form the left flap, terminating at a point corresponding with the teeth. After the divided artery was secured by a ligature, the bistoury was again introduced in a corresponding position on the right side, by which the opposing flap was made; the artery was secured, and then the intervening space was divided by strong scissors. The cut in the tongue resembled in form the letter V inverted. In performing the operation in this manner, I had perfect command of the tongue until after the blood-vessels were tied. The flaps were now approximated, and maintained in this state by means of three interrupted sutures."

A pointed and well-formed tongue was thus constructed. Some topical bleeding was necessary afterwards, but on the fourth day the ligature could be removed, and on the fourteenth the wound was healed.

From the shortness of the rami of the jaw, and the obtuseness of its angles, the incisor teeth were separated an inch and a quarter, while the molar were in contact. The extraction of some of the latter overcame nearly half of the separation—pressure diminished it still farther—and at the termination of a year the jaws admitted of being nearly closed.

Dr. Harris published a similar case, (save that the tumor was not congenital) in the year 1829, in our contemporary. Baron Percy has collected twelve cases of this disease, from the records of all countries, and commencing with Galen. Of the twelve cases, four were operated on with success—the rest were abandoned to their fate.

* American Journal, May, 1837.

VI. DELIVERY OF A FŒTUS THROUGH THE ABDOMINAL PARIETES. By S. H. HARRIS, M.D., of Clarksville, Virginia.*

Dr. Harris very justly remarks, that many rare and many useful facts are daily lost to science through the "negligence of country practitioners," and, we may add, of town ones too, who dislike the trouble or fear the ordeal of publicity. It were much to be desired that every remarkable circumstance *should* be accurately observed, and *could* be properly recorded. But much has already been effected, and, no doubt, more will be so.

In a late number of this Journal, will be found a case, which was communicated to the Royal Medical Society of Copenhagen, in 1833, by Kjär, district surgeon at Holstebræ, in Jutland. In the case in question, a dead fœtus was extracted piecemeal through an opening which formed below the umbilicus—the opening itself leading to the cavity of the uterus, and not to any accidental intermediate sac.

The case which follows will be found in its most essential respects to resemble the preceding, and, as it must be deemed extremely rare, it deserves, of course, to be accurately recorded.

Case. "On the 11th day of November last," says Dr. Harris, "I was called to a negro woman residing in the village, who was labouring under uterine hemorrhage. She was about thirty-five years of age, of robust constitution, and the mother of six living children. According to her own calculation, she was in the eighth month of pregnancy. A few days before, while making up a bed, she had been suddenly seized with pain in the abdomen, which was soon followed by a slight discharge of blood from the uterus. The pain and hemorrhage frequently recurred, but was not so severe as to prevent her from attending to her usual employment, until the evening I was called in. The hemorrhage at this time was somewhat alarming, and the pain very distressing,

though confined chiefly to one side of the abdomen. As she was of a plethoric habit and her pulse full and strong, I bled her freely, and gave two grains of the acetate of lead, with the quarter of a grain of opium, every half hour, and directed the application of cold cloths to the region of the pubis. After continuing this course for six hours, the flooding diminished, but the pain continued without any amendment. I bled her again to the extent, probably, of sixteen ounces, and continued the acetate of lead and opium at longer intervals; some laxative was likewise given, and the cold applications kept applied. Twenty-four hours expired without any material change in her situation, except that the abdomen became more painful to the touch, and the breasts somewhat tumid and tender. The flooding at this time was not profuse, but its continuance induced me to believe that delivery would soon take place. She was again bled twelve ounces, and the acetate of lead and opium discontinued; the cold applications were used only occasionally. After waiting perhaps twenty-four hours, I made an examination of the os uteri, and found it not larger than a twelve and a half cent piece, and very rigid. The finger, instead of passing through a circular opening with thin edges, as at the full period of utero-gestation, passed through a narrow channel of more than an inch in length. It was evident, therefore, that the neck of the womb had not yet expanded. I could distinctly feel the head of the child through the membranes, but the placenta was no where in reach. After thus satisfying myself that it was not a placental presentation, and that the rigid state of the os uteri forbade the administration of ergot, I introduced the tampon, gave fifty drops of laudanum, and left the patient for twenty-four hours. I will mention, by the way, that up to this time and during the progress of the case afterwards, her bowels were evacuated daily by some laxative medicine or mild injections. The opiate procured some sleep, but it had not changed in any respect the general aspect of the case. The os

* American Journal, May, 1837.

uteri remained rigid and unyielding, and the pain incessant, without appearing to act in the slightest degree on the contents of the uterus. The flooding continued, and though not profuse, its constancy began to weaken the patient, and excite some anxiety in my mind as to its final result. About this time (between three and four days after I commenced treating the case) the tension and soreness of the breast subsided, and she no longer felt the motion of the child. The liquor amnii had likewise been discharged. These evidences of the death of the fœtus were soon confirmed by the offensive character of the discharges. The pain appeared to be fixed at this time in the left hypochondriac region, and remained stationary for many successive days. Her respiration was from the first somewhat obstructed by an accumulation of frothy mucus in the bronchi. This symptom continued throughout, and was a source of great distress and uneasiness."

A particular detail of the symptoms for the next twenty days is not attempted. Various conjectures regarding the nature of the case entered the mind of Dr. Harris; but we need not mention them. About the twelfth day of her confinement, the placenta came away, partially putrid. The stomach rejected the ergot—all prudent efforts to dilate the os uteri were ineffectual—opium produced no more than a temporary respite from pain—nothing, in short availed.

"About the 10th of December, the nurse called my attention to a small circumscribed tumour about the size of a chesnut, a little below the umbilicus to the right of the linea alba. I will remark, that for six or eight days previous to this time, the pain seemed to be confined chiefly to this part of the abdomen. The tumour felt very soft, and communicated to the touch a sense of fluctuation. At its base there could be distinctly traced a muscular ring, very hard, and rather more than half an inch in diameter. Gentle pressure on the tumour did not appear to give much pain; but when the end of the finger was forced into the ring, she

complained of excessive pain. The moment I saw and examined this tumour, I felt satisfied that there was a solution of continuity of the uterus, and that the fœtus was making its way to the surface."

As the health of the woman was not materially giving way, Dr. Harris at first applied poultices only, and deferred opening the tumour until the 13th, when it was materially enlarged, while the muscular ring at its base was probably two inches in diameter. A slight incision was made into the apex of the tumour, when about half a pint of thin grayish matter issued, together with a portion of gas, which filled the room with a very offensive odour. A probe was introduced, which soon met with resistance, so as to leave no doubt that the fœtus was fast approaching the surface.

On the 14th, the incision was enlarged, the muscular ring having expanded in the mean time so as to admit the hand. The putrid mass was then drawn to the opening by means of forceps, and a small blunt hook, so as to enable Dr. H. to grasp it with his right hand, and to extract it entire. The bones of the cranium were left behind, and it was necessary to introduce the hand into the body of the uterus, and to bring them away in pieces. The fœtus seemed between seven and eight months old.

Injections into the cavity of the uterus were subsequently resorted to, and the edges of the incision properly brought together. The wound healed in about five weeks, and, while it was doing so, Dr. Harris could at any time distinctly see the lining membrane of the uterus in the bottom of the wound, and could with perfect facility introduce his finger into the cavity of the organ.

VII. DISEASES OF THE SANDWICH ISLANDS.*

An account of these is contained in our contemporary, from the pen of Dr.

* American Journal, May, 1837.

Alonzo Chapin, late a resident missionary at those islands. We shall merely notice a few of the more prominent circumstances.

The *Diet* of the natives is principally vegetable, and consists mainly of the sweet potato and kalo.

The *Climate* is remarkably uniform, and even pleasant, although the islands are situated between $18^{\circ} 50'$, and $22^{\circ} 20'$ North latitude, and $154^{\circ} 53'$, and $160^{\circ} 15'$ West longitude.

The *Diseases* most common, within Dr. Chapin's observations, were *fevers, ophthalmia, catarrhs and asthma rheumatism, venereal diarrhæa, dysentery, cutaneous diseases, scrofula, dropsy, &c.*, and they occurred, in frequency, in about the order in which they are set down. Diseases sometimes occur epidemically, as was the case with catarrh repeatedly, and croup once during his residence at the islands. Many other diseases, not specified, were often met with.

The *Fevers* are not very fatal, and, when idiopathic, usually remittent.

Ophthalmia, of the purulent form, abounds in every portion of the group, and opaque corneas and thickened coats of the eyes, are very numerous. The old and the young are alike affected by the disease; very small children are occasionally met with nearly blind from its effects.

Asthma and *Catarrhs* are frequent, but the latter are not severe. The bad clothing, and as bad habitations of the natives, are calculated to favour the occurrence of such diseases as arise from the operation of cold. Thus *Rheumatism* is very common.

Venereal Diseases. If it be a fact, says Dr. Chapin, that the aborigines of America were affected by syphilis and gonorrhœa before Europeans visited them, or if, as is presumed by Dr. Thompson, "syphilis has been thousands of times generated *de novo* by impure sexual intercourse," it is certain that neither disease existed, or was

known at the Sandwich Islands before the visit of Captain Cooke in 1779.

"With such an introduction, the venereal disease has for the past fifty-seven years continued to spread and increase; perpetuated and extended too by almost every vessel which touches at the islands, till words would fail to express the wretchedness and woe which have been the result. Foul ulcers, of many years standing, both indolent and phagedenic, every where abound, and visages horribly deformed—eyes rendered blind—noses entirely destroyed—mouths monstrously drawn aside from their natural position, ulcerating palates, and almost useless arms and legs, mark most clearly the state and progress of the disease among that injured and helpless people."

Dr. Chapin observes that the natives possess, of themselves, no means of controlling the disease, and but few of them have ready access to foreign physicians. Most of them permit secondary symptoms to appear before they seek assistance. Is the picture favourable to the non-mercurial treatment? We apprehend not.

Diarrhœa and Dysentery. "These have, besides the usual exciting causes which prevail in most places, an additional fruitful source, in a blind and barbarous practice of using immoderately the most powerful and drastic cathartics. The inside of the calabash (*Cucurbita lagenaria*,) trituated seeds of the castor oil, the fruit of the candle nut, (*Aleurites triloba*,) two or three species of *Ipomœa* and some other drastic articles are given in such doses as sometimes to create the most obstinate and dangerous dysenteries. I have known a case in which the average operations of four cathartics, given to disperse dropsy, were twenty-one, the aggregate eighty-four, and another case in which a man from a fear that he would be sick, took such an enormous dose of the calabash as to produce a hemorrhagy which proved fatal within a few hours."

Cutaneous Diseases and Scrofula are common from their filthy habits, imperfect clothing, and indifferent food.

Hepatitis is rare.

Diseases of Females. The females mostly marry before the age of puberty and but few pass the first catamenial period without having had sexual intercourse; and the opinion is prevalent that the menses are the effect of coition, and their appearance in an unmarried girl is regarded as evidence of illicit conduct. This universal practice of premature sexual intercourse, is probably the principal cause of unfruitfulness among the women. How far they are affected by the venereal disease, is not certain. Multitudes live childless, and cases are rare of a woman's giving birth to more than four or five children.

Fluor albus is universal, and exists abundantly in its worst forms; uterine hemorrhage is frequent and obstinate. *Displacements of the womb* are of common occurrence.

In parturition the women are not specially favoured, but suffer equally with the labouring class of females elsewhere. Some of Dr. Chapin's severest cases of midwifery have been among the islanders. In several instances, the uterine and vaginal rigidity has been excessive.

Of course, the natives have no knowledge of medicine. Charms and incantations are prominent remedies. Many have been pounded and roasted to death from a belief that their diseases were the effect of an indwelling spirit.

Population. This has enormously decreased since Capt. Cooke's visit in 1779. Then the numbers of the islanders were estimated at 400,000—now they only amount to 135,000. One of the missionaries computes that there are annually 6838 deaths and 3335 births. If so, the native inhabitants will at no great distance of time disappear. The main causes of the decrease are—the venereal disease—and the abuse of alcoholic liquors. It is, then, with the Sandwich islanders, as with the Aborigines of America, the white man's arts and vices have corrupted and destroyed them. A melancholy reflection.

CASE OF WORMS IN THE URINARY BLADDER, SIMULATING STONE IN THAT ORGAN.*

The patient was a lady, aged 35, living at Hartland. She had most of the symptoms of calculus in the bladder, and was several times sounded by her ordinary physician, as well as by Dr. Brigham, who relates the case.

This latter gentleman was confident that he felt some unnatural substance or tumor in the bladder, but could not determine its nature or extent. One day, however, the lady voided from that organ, with considerable pain, a round white worm, and from that moment her complaints ceased.

It subsequently turned out, that, when she was fourteen years of age, she was troubled with difficulty of making water, and discharged a worm an inch long from the bladder—and in six weeks after that, she passed another of the same size, when her complaint ceased.

Dr. Brigham refers to a case related by Mr. Lawrence in the *Medico-Chirurgical Transactions*.† The patient in that case passed several hundreds of worms, some quite small, some from four to six inches in length.

PREPARATION OF PHLORIDZINE.‡

Place in a copper vessel the bark of roots of apple trees, freshly dug up, and pour in enough of distilled water to cover the bark entirely. Boil for four hours, always replacing the water which escapes by evaporation. After four hours, pour off the liquid, and then add a fresh quantity of water to the residue equal to the first, and boil it again, but only for one hour, and then pour off. The two products, when kept at rest for thirty hours, will deposit a great quantity of phloridzine, re-

* American Journal, May, 1837.

† Vol. II.

‡ Journal de Chimie Médicale. Med. Gazette.

sembling dark velvet. Collect the phloridzine, and add to it an equal quantity of animal carbon; boil the two in a little water, and filter. This process must be repeated three times, and when the liquid is made to cool gradually, a beautiful crystallization of the phloridzine takes place. M.B. has been unable to discover this substance in the bark of the root of cherry trees.

Phloridzine is very light, of a white colour, with a slightly bitter, but not at all astringent taste. It gives no reaction with test-paper. It is scarcely at all soluble in cold water, but much more so in hot alcohol, which at its common temperature dissolves half its own weight of it. Being treated with half its weight of nitric acid, to which water was added, after an hour of boiling the liquid assumed a red colour, and no traces of phloridzine could any longer be detected.

OPINIONS OF NAPOLEON ON MEDICAL EDUCATION.

The following passage from Basil Hall's "Napoleon in Council," displays the opinions, we should rather say fancies, of that wonderful man, on the subject of Medical Education.

"With respect to the degrees given by the University, that of Doctor ought not to be too readily bestowed. The candidates ought to be examined on the most difficult subjects—for example, on the comparison of languages; and it would not be amiss were they required to converse in Latin for an hour and a half. It is by no means necessary that all the world should be rendered eligible for a Doctor's degree; nor do I approve of the condition which requires that a Bachelor of medicine should first take a scientific degree; for medicine is not a positive and exact science, but one of observation and conjectures. For my part, I should have more confidence in a Doctor who had not studied the exact sciences than in one well acquainted with them. I preferred M. Corvisart to M. Hallé, because M. Hallé belongs to

the Institute, whereas M. Corvisart does not know what is meant by two triangles being equal to one another! The student of medicine ought not to be disturbed in his visits to the hospital or the dissecting-room, or in his medical studies. Anatomy, though the least uncertain branch of the art, is still enveloped in darkness. We know neither why we live, nor how we live, nor what the living principle is. To require, therefore, that a young man shall be versed in knowledge of such different kinds before he can enter upon his profession, is to risk losing the public services of the great men whom such a profession might turn out; for by a strange caprice in the structure of the human mind, it may well happen that a man may be a great physician, or a great jurist, who could never work a sum in compound division."

It would be throwing away our time to point out the many fallacies contained in these whimsical opinions. But fallacies are not Napoleon's alone—they are frequently expressed in society. Because medicine is not an exact science, therefore a medical man should not have an exact habit of thinking. Why the object is to make medicine as exact as possible, and this is most likely to be effected by a man who is accustomed to exact reasoning. The best proof of the correctness of this idea, is the improvement which has actually been worked in medicine by the cultivation of healthy and morbid anatomy—in other words by the cultivation of those means which tend to further its exactness.

It is absurd to urge against anatomy that we know nothing of the intimate essence of life. It would be just as rational to urge against physic that we know nothing of the nature of attraction. But we can learn much of the laws both of life and of physics, and this is a sort of knowledge which is highly useful to us. Half a loaf is surely better than no bread.

A classical education is no doubt of service in the making of a medical man. But so is all education, and, so far as immediate utility goes, the classical is inferior to the mathematic. The great

advantage of classical learning is its peculiar aptitude for refining the taste, and for opening many sources of intellectual enjoyment and improvement. A physician is to mingle with the higher classes of society, and he must possess something of the manner both of acting and of thinking, which distinguishes those classes. Their minds, from the character of public schools and universities, are deeply imbued with classical recollections, and a man who has them not cannot fail to disgust.

REPORT ON THE NATIONAL VACCINE ESTABLISHMENT.*

The following short extracts from this Report are gratifying, so far as they go.

The annual loss of life by small-pox in the metropolis, and within the bills of mortality only, before vaccination was established, exceeded 5,000; whereas in the course of last year only 300 died of that distemper; and it is probable that even this mortality, however comparatively small, is owing to the continued partial practice of inoculation, which is liable to disseminate far and wide its contagious influence, to the imminent danger of all who have not been protected by previous vaccination, or by having had the disease already.

Although we lament sincerely the mistaken judgment which prefers inoculation to vaccination, whether on the supposition, amongst other ill-founded notions of which we sometimes hear, that the original virtue of the vaccine virus has been worn out by time, or on any other equally ill-grounded opinion, we have the satisfaction of knowing that vaccination has made considerable progress since our last report, and that we have supplied lymph, not only to every part of this kingdom in the course of the last year, but to all the colonies also, and to many of the capitals of Europe.

VICARIOUS MENSTRUATION FROM THE SKIN OF THE THORAX.

Dr. Cowan, physician to the Reading Dispensary, relates this case. It is a curious one.

Case. Mrs. B., aged 49, of industrious habits, and robust health, mother of five children, and never liable to uterine irregularity or leucorrhœa, about five years since, in consequence of fright during the menstrual period, experienced suddenly a suppression of the catamenia, which have never since returned. Her general health was not sensibly affected, but two months afterwards a sudden and copious discharge of blood, per anum, took place, from which she suffered no inconvenience. Two or three months later she was sensible for the first time of a pricking sensation on the under surface of the left mamma, which was soon followed by increased heat and redness, and a discharge of a thin serous, colourless fluid, similar in no other respect than as regards the smell, to the natural menstrual secretion. This continued for about twenty-four hours, when the surface gradually dried up, desquamation followed, and the skin in a few days resumed its natural appearance. With the cessation of the discharge of the breast first affected, a precisely similar series of phenomena took place in the corresponding point of the opposite side, and has continued up to the present moment, an interval of more than four years, to be repeated at the regular monthly period. She only complains of the local smarting and the disagreeable smell, which at times she states to be almost insupportable.

The affected part occupies a space about the size of the palm of the hand, and is situated in the fold of the skin between the breast and the thorax, extending equally upon both surfaces. There is an exact correspondence on either side, and during the period of secretion the skin has all the appearance of a raw and blistered surface;

* Med. Gaz., July 22.

* Med. Gaz., August 5.

the nipple is tender, but has never been subject to any discharge.

She says that the local changes have not sensibly varied in character or extent from the commencement.

SUBSTITUTE FOR THE "LIQUOR OPII SEDATIVUS" OF BATTLE.*

Mr. Houlton, of Lisson Grove, speaks very highly of the following preparation.

"Take two ounces and a half of the best Turkey opium; thirty-two fluid ounces of Beaufoy's acid, the strength of pickling vinegar: macerate with a gentle heat for six days, frequently shaking the vessel; then filter, and evaporate the fluid to the consistence of the extracts of the Pharmacopœia, finishing the evaporation by the spontaneous method. (*This I employ under the name of Extractum Opii Aceticum.*)

Take the above extract; alcohol, five fluid ounces; distilled water, thirty-five fluid ounces. Macerate for eight days, and filter.

This liquor opii will be about of the strength of tinctura opii in sedative property; but the strength may be varied at the will of the apothecary. I prefer it of the proportions I have stated."

ON POISONING WITH THE ESCULENT MUSHROOM. BY D. O. EDWARDS, Esq.

Mr. Edwards relates the following cases, which we must abridge, in the *Lancet*.†

F. B., aged 25, Anne B., his wife, aged 23, and their child, aged 4, gathered a large quantity of mushrooms in the morning of the 20th of August, 1830, and not being able to dispose of them, went home, cooked them all, and made a meal of them, taking nothing besides but water.

In half an hour they were affected with giddiness, and the subsequent symptoms may be thus traced in the man. The giddiness gradually increased until a dimness of sight supervened. He then appeared to himself as if involved in flame; the hearing became painfully acute, and objects (probably) from the rapidity of the sensations) became confused to the eye. He occasionally felt a sentiment of uncontrollable gladness, which prompted him to the muscular movements. Yet he was fully conscious that he was in a state of preternatural excitement. The woman gave a recital of her sensations similar to that of the husband; but the condition of the child could only be gathered from the obviously excited irritability.

It was about an hour after the meal when Mr. Edwards was summoned to see them in the waiting-room of the Westminster Hospital. He thought at first they were all drunk. The man, woman, and child, were in continual motion, either dancing or throwing themselves into grotesque attitudes. Their countenances expressed the highest hilarity, and their consciousness was quite unclouded. On being charged with drunkenness, the adults exhibited the most lively indignation. The man was most vividly affected by the poison; his eyes glistened; the pupils expanded; the pulse was full and frequent; no sordes could be detected on the lips or teeth; the tongue was clean, and the breath untainted. He conversed without embarrassment, and said that he was intelligent of every thing that passed around him.

Mr. Edwards used the sulphate of zinc, as an emetic, but without benefit. The man, indeed, began to exhibit symptoms of congestion of the brain. His stomach was washed out with Reed's pump, and some half-digested mushrooms were in this way removed. The man was then quickly relieved, and a few leeches being placed upon the temples, he was discharged well, with his family, next day.

* *Med. Gaz.*, August 12.

† July 1, 1837.

CURE OF CLUB-FOOT BY THE DIVISION OF THE TENDO ACHILLIS.*

The case is related, with the delight of a grateful father, by Mr. Ray, a highly respectable surgeon, of Milton, in Kent.

The case was that of his eldest son, a healthy boy, born in Feb. 1823, with a club-foot. This was not considered very bad; yet all mechanical means failed to remedy it. The state of the boy before the performance of the operation was as follows.

In the erect posture the patient appears to be simply standing upon the toes and ball of the foot of the affected limb, the heel being drawn up by the muscles of the calf as high as possible, not touching the ground by three inches; in consequence of the extreme rigidity of the tendo-achillis and gastrocnemii muscles, it is impossible to place the foot in its natural position by bringing down the heel. In walking the patient limps a good deal, and treads on a very small part of the sole; there is not much inclination of the foot inwards, though he treads more upon the ball of the little toe than of the great toe. In the act of walking there is no bending at the ankle-joint. Although the entire affected extremity is rendered longer, through the extension of the foot, the leg is, in reality, somewhat shorter than that of the opposite side. The tibia and fibula are also more slender; the inner malleolus presents itself more anteriorly, and the other more posteriorly, than natural. The heel being drawn up as much as possible, causes the foot to appear to be a continuation of the leg; it is, in fact, nearly in a straight line. The arch of the foot is much greater than natural; the tarsal bones, therefore, present a great projection upwards; the affected foot is an inch and a half shorter than its fellow; the muscles of the leg are much less developed than those of the sound limb; there is no paralysis of the tibialis anticus, peronei, or rather muscles on the front of the

leg; he can put them in action at pleasure, without, however, being able to move the foot much.

On the 1st of May, the operation was performed in London by Dr. Little. This gentleman divided the tendo-achillis, about an inch and a half above the malleolus, by introducing a very narrow, slightly-curved, bistoury between the tendon and the deeper-seated muscles and tibial vessels, directing the edge of the knife against the front of the tendon, dividing it from within outwards, leaving the skin covering the tendon untouched. The section was accomplished most skilfully and the minute puncture in the skin was covered with a strip of adhesive plaster, and a loose bandage was applied round the foot and leg. Any separation of the divided ends of the tendon was prevented by placing the foot in its deformed position upon a stiff pasteboard splint, applied along the outer side, and by adjusting the limb, with the knee bent, upon a pillow.

On the 4th day, the puncture was firmly cicatrized, and Stromeyer's foot-board was applied. By the 14th day, the lymph between the ends of the divided tendon was sufficiently stretched to allow the foot to be brought to a right angle with the leg.

19th day. To-day the use of Stromeyer's foot-board is partly discontinued, and he wears in its stead Scarpa's shoe, modified by Stromeyer, which tends better to overcome the too great curvature of the bones of the tarsus, now that the foot is bent to the right angle. He walks about in it very well; the entire sole and the heel touch the ground; nor does the foot, when removed from all apparatus, return to its vicious position. The arched form of the dorsum of the foot, and the inclination of the front row of the tarsal and metatarsal bones, inwards, is now more striking to the casual observer than before.

At the end of six weeks and a few days, the boy returned home, and has since been steadily improving.

This must be looked on as a very valuable addition to our stock of operations.

* Lancet, July 15, 1837.

SPONTANEOUS CURE OF A GELATINOUS POLYPUS NASI.*

A woman, aged 30, while labouring under an attack of hepatitis, became affected with a gelatinous fungus in the left nostril. It grew from a small peduncle, and took its origin from the middle meatus of the nose. The patient obstinately refused to allow Mr. Mad-dock, who relates the case, to remove it. It still grew—filled the nose—extended backwards to the fauces, forwards out of the nostril—was accompanied with headaches—and was the source of a constant fetid discharge. Matters seemed going on very badly, but gradually the fungus decreased, the discharge being mixed with drops of blood and small portions of fungus—the headache passed away—and at last the fungus disappeared altogether.

If there is no return of it, the patient may consider herself lucky.

OPINIONS ON THE CONTAGION OF GLANDERS.†

“Glanders, the nature of which is yet a problem, is it contagious? Huzard says, ‘yes,’ with Solleysel, La Guirinié, and Gaspard Saunier. Camper, Godine, Magendie, Dupuy, say, ‘no.’ La Fosse says, ‘yes’ and ‘no.’ Coleman, Delabere Blaine, and Dutz, neither say yes nor no! Chabert, after having, during his whole life, maintained the contagiousness of glanders, has retracted this opinion in his old age.”

A very pretty specimen of the certainties of veterinary as well as other medicine.

DR. GRAVES' OPINION OF THE PATHOLOGY OF PHLEGMASIA DOLENS.

OUR readers are well aware that the following doctrine has been advocated in this Journal for 20 years past.

“Let me now direct your attention to the case of Rebecca Howard, who came into hospital on the first of this month, eight days after her accouchement, with painful swelling of both lower extremities. From the history of her case it appears, that three or four days after her confinement, she got severe pain about the heel and inner ankle, accompanied by swelling, which, commencing about the same situation, extended rapidly up the thigh as far as the groin. A similar swelling appeared likewise in the other limb but instead of commencing below, it appeared first in the upper third of the thigh, and afterwards spread downwards, attended with violent pain, apparently in the course of the great sciatic nerve. Along the course of the veins a number of hard cords, extremely tender to the touch, could be distinctly felt; the lymphatics, though somewhat tender also, did not seem to be so much engaged, and there was no inflammation of the glands of the groin.

Here we had a case of phlegmasia dolens, or in other words, painful inflammatory cedema of the lower extremities, involving the skin, subcutaneous cellular tissue, veins, and lymphatics, more or less distinctly. I have before stated to you my opinion, that this affection does not necessarily depend on phlebitis; on the contrary, I think that in the majority of cases the disease commences in the subcutaneous cellular tissue, and afterwards extends to the veins and lymphatics. Observe the course of the inflammation in both limbs. In one it commences in the vicinity of the inner ankle, and extends up the thigh; in the other it is first observed in the upper part of the thigh, and spreads downwards. Now, where cedema is the consequence of phlebitis, or where it is artificially produced by tying or compressing one of the large venous trunks, it is always first observed in the lower part of the limb. You perceive, then, that those who explain the occurrence of phlegmasia dolens by referring it exclusively to phlebitis, are not able to account for it as commencing in the thigh and spreading downwards. But how much easier is the

* Lancet, July 15, 1837.

† Lancet, August 5, 1837.

explanation, if we look upon it as a peculiar inflammation of the subcutaneous cellular membrane of the limbs involving in its progress to a greater or lesser extent, the veins and lymphatics, and sometimes extending to the joints. From this view of the pathology of phlegmasia dolens, you can understand why the upper part of the thigh may become primarily affected, and that effusion may take place above before it occurs below.

So far with respect to the pathology of the diseases: now with regard to treatment. In attempting to remove this inflammation, we were obliged to keep clear of any measures calculated to increase constitutional debility. The woman, though young, was of a delicate constitution; and there is this peculiar difficulty in the treatment of diseases after parturition, that they occur at a time when the patient has been more or less debilitated by the efforts of labour and its consequences. Our object, therefore, was to reduce the local inflammation, at the same time that we endeavoured to support the woman's strength by a light and nutritious, but not heating diet. We commenced with the application of leeches, to the number of ten, along the inside of each limb; these we repeated to the same amount on the following day. In the application of leeches in cases of this kind, you must be guided by the circumstances of pain, tension, and swelling; these are sometimes greater in one portion of the limb than in another most frequently in the course of the veins; but you should always take care to have them applied over those spots in which the inflammatory process seems to exist in greatest intensity. Our next step was to open her bowels by means of purgative injections, to be repeated as occasion required. In addition to this, I directed the limb to be gently rubbed with an ointment composed of one ounce of mercurial ointment, two ounces of lard, and three drachms of extract of belladonna. I have already dwelt so often on the local, antiphlogistic, and narcotic effects of this composition, that it is unnecessary for me to say any thing of it at present.

With respect to internal remedies, I ordered her to take five grains of Plummer's pill every night and morning; but as this produced griping and a tendency to diarrhoea, we were obliged to change it for hydrarg. c. creta, with Dover's powder. On the 24th (the fifth day of her treatment) her mouth became affected, and the pain along the sciatic nerve, as well as the general soreness of both extremities decreased. I forgot to observe, that from the commencement we had given opiates freely; indeed, this was one of the principal parts of our treatment. She first took the liquor of the muriate of morphia, in doses of twenty drops, three times a day; this was exchanged for opiate injections, when her bowels became irritable under the use of Plummer's pill. On the 24th there was a considerable improvement in her symptoms, as I have already stated; but she was very weak; there was still considerable soreness of the extremities, and she complained of pain and tenderness in the right groin, shewing that the lymphatics as well as the veins were engaged. I ordered the opiate enema to be repeated, and allowed her the free use of chicken-broth, rice, and a small quantity of wine. On the 25th she was directed to take a pill containing half a grain of opium every third hour. Next day the report states that she finds herself much better, that her bowels are quite natural, that she feels no pain in the lower extremities, except when pressed or moved, and that she has regained the power of her limbs. Two days afterwards she was able to stand, and at present she is so far recovered that I intend to dismiss her to-morrow.

The treatment of cases of this description involves some very curious and important considerations. With the exception of leeching, the treatment which we employed in this case cannot be called antiphlogistic; for throughout the whole course of the disease we gave opium freely, allowed her a nutritious diet, and after the first four or five days the use of wine. This shews that, in diseases called inflammatory, no general rule of treatment can be laid down, and that our practice must vary

in the most remarkable manner, according to circumstances. Had I treated this inflammation by leeching, low diet, purgatives, and antimonials, it is very probable she would have sunk. But while we were endeavouring to subdue local inflammation by leeching and mercurial ointment, we supported the constitution by a proper diet, nourishing but not heating, and afterwards by the use of wine. At the same time we gave opium in free and repeated doses with the view of diminishing pain and irritation, and procuring sleep—a most important matter in the treatment of all acute affections combined with irritability. We also gave mercury internally, because it has been found extremely valuable in such cases, when given rather as an alterative than with the view of rapidly and violently affecting the system. Under this plan of treatment her convalescence has been

very rapid. It is a plan abundantly simple, but one which I can recommend to you with confidence.

With respect to the after-treatment of this case, I have merely to observe, that as soon as the hyper-sensibility of the limbs became diminished, I ordered them to be rubbed diligently twice a day with warm olive oil. How this acts I cannot distinctly say; but it appears to diminish tension, to promote absorption, and to increase the pliability of the limbs. Latterly we have given up this, and had recourse to dry friction and bandages. At present she is taking, three times a day, a mild tonic draught, composed of tincture of orange peel, half a drachm; tincture of hops, twenty minims; carbonate of soda, five grains; water, an ounce.”*

* Med. Gazette, 19th Aug. 1837.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

MÉMOIR ON SOME REMARKABLE CASES OF ORGANIC ANOMALIES.

In the course of my studies, says Dr. Petrequin, in normal and pathological anatomy, I have had frequent occasion to meet with some organic anomalies of structure or arrangement, which are worthy perhaps of being communicated to the profession. Such irregularities of formation have, until the last few years, been either quite overlooked, or misunderstood; and hence we can draw little useful information on this very curious subject of inquiry, previous to the publication of the writings of Meckel, St. Hilaire, and Serres.* Numerous

are the opportunities which occur in almost every dissecting-room to collect and to examine numerous varieties of irregular development: and it is to be sincerely regretted that so little use has hitherto been made of these. We have only to call to mind what unexpected light the study of monstrosities in connexion with that of comparative anatomy, has thrown on the general laws of organo-genesis, to induce us to pay more attention to this subject. It is in this department of science, more perhaps than in any other one, that we recognise the truth of the saying, “*exceptio probat regulam*”; the very deviation from normal development and formation confirming, in the most beautiful and convincing manner, the great laws of philosophical anatomy.

Prompted by these motives we have collected a few instances of organic anomalies, which we shall now briefly describe.

* The subject of Philosophical anatomy was examined at great length in the last number of this Review. We therefore refer our readers to the article there published for an account of the history, as well as of the present state of the science.

Urinary Apparatus.

CASE 1.—*Right Kidney provided with two Ureters; Left Kidney bilobular, and having two Pelves and two Ureters*

A man, 55 years of age, was brought in a dying state to the Hôtel Dieu at Lyons.

On dissection, the prostate gland was found in an inflamed and suppurating condition; the mucous coat of the bladder was much thickened and corrugated. The right kidney was larger than its fellow. It was provided with two ureters, one of which arose, as usual, from the pelvis, and was very large and wide for about two inches in length, and then regained its ordinary dimensions. The second ureter arose from the lower part of the kidney; it was smaller than the other one, from which at first it was separated by about an inch, gradually however approaching near to it, in their course downwards.

The left kidney presented a singular arrangement of its parts. Instead of one large pelvis, there were two. The upper one, which was larger than the other, was imperfectly divided into several compartments; it terminated in an infundibulum, from which there was continued a ureter. The second, or lower pelvis also gave origin to a separate ureter. The two ureters gradually converged towards each other as they descended; and, for the lower two thirds of their course, they were firmly joined together. They opened, however, by distinct orifices into the bladder. The structure of this left kidney presented a curious appearance. It seemed as if there were two kidneys, united intimately the one with the other, and each of which was provided with its separate pelvis and ureter. Now this incomplete union realizes, in some respects, the fetal condition of the organ, at an early period of intra-uterine existence.

Meckel has remarked that congenital malformations of the kidney are more frequently met with on the left than on the right side—a remark which is partially confirmed by the present case. I may add that the lobular structure of the kidney, which in man is deemed a monstrosity, is the normal condition of

the organ in most of the lower mammiferous animals; most strikingly in the cetacea, in which the lobules are so numerous and so distinct from each other, that the viscus has often been compared to a cluster of grapes. It may be worthy of notice here, that most of the examples of what have been described as supernumerary or double kidneys are in truth only instances where one of the lobules has remained permanently detached from the others; and that in such cases, therefore, there is not a multiplication, but only a fissure, of the organ.

As to the ureters, their duplicity may be explained by the non-reunion of the roots, from which these tubes are primarily formed.

Case 2. In a woman, who died of phthisis pulmonalis in the wards of La Charité, the right kidney was found in a state of *hydronephrosis* or dropsy. From the distended pelvis arose the ureter, double at its origin and for four inches of its course, then becoming single from this point unto its insertion into the bladder. There was no anomaly on the side.

In addition to the numerous instances of this sort which have been recorded, M. Laith has described in the Archives de Medecine for 1834, a case, in which he found two ureters, the abnormal one of which was larger than the other and arose from the upper part of the kidney. M. Lediberder also, in the same Journal for 1835, has communicated two very interesting examples of a similar anomaly.

M. Isodore Geoffroy St. Hilaire has, in his admirable work on Teratology, laid down the position, that "an organ, having its analogue or fellow on the median line of the body, very rarely deviates from the normal formation." There are however very numerous exceptions to this law; and indeed it may even be doubted whether it can be admitted as such in philosophical anatomy.

Case 3. *Senile Hydro-nephrosis; Atrophy of two-thirds of the Cortical Substance; Fatty Transformation of*

several of the mamillæ, and atrophy of the others.

An octogenarian died in La Charité, at Lyons, in 1836. Dr. Petrequin found on dissection that the left kidney was in a dropsical state; all its mamillated substance had disappeared, with the exception of five of the mamillæ, which had become converted into a fatty-looking matter. The cortical substance, reduced to one-third of its usual proportion, formed as it were a sac or investment around the distended pelvis. Into this sac, which was filled with a limpid inodorous fluid, the remains of the five calices terminated. The ureter, of its ordinary dimensions, gave passage to this fluid, when the kidney was compressed with the hand. The right kidney was nearly sound in all its parts. At a few points only did it present traces of incipient fatty degeneration.

Persistence of the Cavity of the Urachus.

The function or use of this cord, which extends from the fundus of the bladder to the umbilicus, is still a subject of doubt to anatomists. The ancients supposed that it served as an excretory canal for the urine in the fœtus. But Cruveilhier, in his *Anatomie Descriptive*, assures us that he has never found it pervious even in the youngest fœtus. M. St. Hilaire, however, has collected the accounts of several cases, in which this organ was permeable. "When," says he, in his work on monstrosities, "its cavity is preserved from the bladder to the umbilicus, there is no outward sign of such a condition, provided the urinary passages remain free." This statement is not, however, strictly true in all cases. Hofmeister mentions that he has seen the urachus remain open after birth, in a child two years of age, the urethra being quite pervious all the time.* Perhaps also the following case

may be regarded as another example of the same anomaly.

Casa 4. Dr. Petrequin attended a lady, in whom there was an occasional oozing of a serous fluid from the umbilicus. No distinct orifice could be distinguished among the small folds there. As she advanced in years, the discharge became more frequent and more copious. The question comes to be, whence did this discharge proceed? Did it come from the bladder? or was it a secretion from a persistently open urachus?

Generative Apparatus. Persistence of the Testicle within the Abdomen.

Dr. Petrequin informs us that he has met with three cases of this anomaly.

A man, 36 years of age, unmarried, was brought to the Hôtel Dieu at Lyons, in the last stage of acute meningitis. On dissection, the right testicle was found quite within the inguinal aperture, firmly attached to the peritoneum by its convex side, while the epididymis and the vas deferens had partially inserted themselves into the canal. The peritoneum had formed a fold, like the finger of a glove, and this passed some way down along the canal.

On the left side, two fingers could be readily passed from the cavity of the abdomen along the inguinal canal. The testicle, resting on the pubis, had advanced forwards to the two pillars or columnæ of the inner aperture, while the vas deferens and its accompanying blood vessels had protruded somewhat along the canal, and thus formed a slight hernia.

backwards. The urine flowed freely by the natural passage of the urethra. The excrescence was tied with a ligature, and fell off in the course of a few days. The umbilicus gradually cicatrised, and was covered with skin; and then all oozing ceased.

In the Foreign Periscope of a recent number of this Journal, there is a short account of a case, in which a fluid, somewhat resembling urine, oozed from the umbilicus.—*Rev.*

* According to the description given by Hofmeister, there existed at the umbilicus a fleshy, fungous, red, and pediculated excrescence, from which urine oozed out when it was pulled

The two vasa deferentia, having a shorter trajet than usual, were twisted into numerous folds.

The anatomy of such a malformation, as the present, illustrates very beautifully the manner in which congenital hernia is produced; and at the same time affords a most interesting example of the persistence of one of the normal structures of embryotic life.

It may be here remarked, that the absence of the testicles in the scrotum cannot in any case be adduced as a proof of impotence of the individual. The medical jurist is, as a matter of course, aware of their occasional non-descent from the cavity of the abdomen, within which they are developed in all animals.

M. Mayor, of Lausanne, has published, in the *Gazette Medicale* for 1836, the account of a curious case, where the right testicle began to descend at 36 years of age.

Existence of Three Mammæ in a Man, all of whose Children had the same Malformation.

The interesting memoir of M. Bedor (*Gazette Medicale*, 1836) on Gynecomastie, has recalled to my memory, says Dr. Petrequin, a curious example of the above-mentioned anomaly.

Case 6. A middle-aged man had three distinct mammæ. Two were on the left side, and one of these, the supernumerary, was situated immediately above the other. He had five children, three sons and two daughters. The three boys were provided each with three mammæ, like their father; but only with this difference, that the supernumerary one was on the right side of the chest. The two daughters also were *trimammal*; in them the third mamma was on the left side, as in the case of their father.

Two of the daughters had married, and were the mothers of several children; but in these there was no trace of any anomaly of the mammæ.

The preceding case is very curious, as affording an example of the here-

ditary transmission, for one generation at least, of a structural irregularity.

Existence of Four Mamme in a Woman the Supernumerary Ones situated in the Axilla.

Case 7. In 1803, a woman, in the eighth month of pregnancy, consulted Dr. Martin of Lyons, for two tumors, one in each axilla, immediately on the outer edge of the great pectoral muscles. They were of the size and shape of pullets' eggs, and seemed to consist entirely of skin and subjacent cellular tissue. On compressing them between the fingers, a yellowish milky-looking fluid was observed to ooze from their surface, similar to that which is frequently seen to come from the nipples of a pregnant woman. After being well squeezed in this manner, the tumors became smaller, and as it were, shrunk from being emptied of their contents. From time to time they became painful and swollen: and this state never subsided unless there was a discharge of serosity from them.

The regular mammæ were smaller than usual. After delivery, however, they became plump and distended, and during the whole period of lactation it was observed that when the child was applied to either of the regular mammæ the supernumerary ones oozed out "un veritable lait."

A case somewhat similar to the one now recorded is related in the *Dictionnaire des Sciences Medicales*, tome xxx. by M. Champion De Bar-le-duc.

The anomaly, therefore, of supernumerary mammæ is of very rare occurrence. When there are four mammæ they are usually arranged in four symmetrical rows; thus presenting an arrangement somewhat analogous to what we find in the lower mammiferous animals. M. St. Hilaire, in the work to which we have already made more than one reference, makes the remark that the supernumerary mammæ, when they are situated laterally, afford milk; but not so, when they are situated in the mesian line. This is a very interesting remark, if it will be found to be strictly true, as we find that in all the lower

animals (with the exception perhaps of some marsupialia) the teats are uniformly lateral, and never situated in the mesian line of the body.

On the whole, the anomalies "par excès" are much more rare than those "par défaut;" and, in reference to the former, it may be laid down as a general truth that the organs, which are most frequently the seat of numerical anomalies, are precisely those of which the number is most variable in the different classes of animals. Here, therefore, we perceive the approximation, as it were of congenital malformations in the human subject, to the normal structure of animals, lower in the scale of organization.

We shall close this rather rambling article by describing a very curious case of

Lateral Transposition of the Thoracic and Abdominal Viscera.

A man, 20 years of age, was admitted into the Hôtel Dieu at Lyons, with a white-swelling of the knee. He refused to submit to amputation of the limb, and died a lingering death of marasmus.

On examining the body after death, the heart was found with its apex directed towards the false ribs of the right side. The aorta ascended from the left, and formed an arch backwards and towards the right, and then curving behind the root of the right lung passed along the right side of the dorsal vertebræ. From its arch there arose three great trunks; 1st, the arteria innominata, which divided into the left subclavian and the left carotid; 2dly, the right carotid; and 3rdly, the right subclavian. The vena cava superior descended along the left side of the spinal column as low down as the point of its bifurcation.

The left lung was found divided into three lobes, while the right one had only two.

The œsophagus pressed down on the right side of the mesian line, pierced the diaphragm in this direction, and joined the stomach on the right side of the epigastrium.

The liver occupied the left hypo-

chondriac and part of the epigastric region.

The spleen lay in the hollow of the right hypochondrium.

The stomach was directed from the right to the left side; its large extremity occupying the right hypochondrium, and the pylorus resting on the left side under the concave surface of the liver.

The duodenum was directed from left to right, while the cæcum was situated in the left iliac fossa. The tissue of all the viscera was perfectly normal. During the life of this individual there had not been at any time observed any outward peculiarity of appearance, to indicate an irregularity of visceral arrangement.

The study of such an interesting case of transposition or ectopia is useful to the practical physician and surgeon, as well as to the physiologist.

If we attempt to explain the proximate cause, or mode of production of such an anomaly, we shall perhaps be led to agree with the hypothesis of M. Serres, that the development of the various organs of the body is primarily influenced by, and indeed dependant upon, the arrangement of their vascular trunks. According to this view, the "fons et origo mali" was the irregularity or transposition of the heart and blood-vessels.

It is of very rare occurrence that we ever find a partial transposition of the viscera; as for example the heart situated on the right side, or the liver on the left while the rest of the viscera occupy their normal places. In general the displacement of one important organ necessitate the displacement of other organs, with which it is more or less intimately associated in functions or connexion. But at present we cannot pursue this subject any further. To those who wish to make themselves acquainted with the histories of the most interesting cases on record, as well as the hypotheses which have been framed to explain their occurrence, we again recommend to their attentive perusal the work of M. St. Hilaire on Monstrosities.—*Gazette Medicale*, April 1837.

PSYCHOLOGICAL PHYSIOLOGY.

THE RELATION OF THE WEIGHT OF
THE CEREBRAL MASS WITH THE
DEVELOPMENT OF INTELLIGENCE.

Dr. Lelut informs us that he is about to publish a work, to be entitled "*Nouveaux Rapports du Physique et du Moral*," in which he proposes to illustrate, at considerable length, many very curious topics connected with the development of the brain, in reference to the mental and normal characters of individuals. Whether he is, or is not a phrenologist, we are not informed; but this matters little, provided he can satisfy the public that his data and facts are accurate and trustworthy.

Omitting some prefatory remarks, which are unimportant, we shall now lay before our readers the substance of his paper, which is inserted in one of the late numbers of the *Gazette Médicale de Paris*. The average weight of the encephalon (including the cerebrum, cerebellum, and tuber annulare or rachidian bulb), after the meninges have been stripped off, is in the healthy adult male about 1346 grammes, or three pounds and a half,* of which the cerebrum weighs 1170, and the cerebellum 176 grammes. In the female the weight of the encephalon is about 1-13th less than in the male. The following are the measurements of the encephalon in certain individuals, "*dont la triste célébrité a jeté quelque jours sur leur psychologie*."

1. Lhuissier, who murdered his mistress, and then cut the body up and threw the pieces into the Seine. Intelligence below the ordinary standard, and not cultivated—15 years of age—middle stature.

The encephalon weighed 1496 gram.
 cerebrum . . . 1305
 cerebellum . . . 191

2. Belard, murderer of one of his relations; a tradesman in the Temple. Intelligence below the ordinary stan-

dard, and not educated—29 years of age—middle stature.

The encephalon weighed 1290 gram.
 cerebrum . . . 1130
 cerebellum . . . 160

3. Bardon, an accomplice in a murder. Intelligence ordinary, and not cultivated—39 years of age—midd. stature.

The encephalon weighed 1384 gram.
 cerebrum . . . 1204
 cerebellum . . . 180

4. Chandelet, the assassin of his uncle; a porter in the Rue de Charonne. Reason lively and exalted; propensities brutal and licentious—31 years of age—stature short.

The encephalon weighed 1192 gram.
 cerebrum . . . 1010
 cerebellum . . . 182

5. Avril, the accomplice of the notorious Lacenaire. Intelligence ordinary, and not cultivated—27 years of age—middle stature.

The encephalon weighed 1310 gram.
 cerebrum . . . 1130
 cerebellum . . . 180

6. David, murderer of his sister-in-law, who was the wife of a servant at the Hôtel des Invalides. Intelligence ordinary, but somewhat eccentric, and partially cultivated—34 years of age—stature rather tall.

The encephalon weighed 1420 gram.

N.B. It has been preserved in spirits, and the weight of the cerebrum and cerebellum, separately, cannot be stated.

7. Fieschi. Intelligence ordinary, but not cultivated, but active and proud—46 years of age—middle stature.

The encephalon weighed 1365 gram.
 cerebrum . . . 1200
 cerebellum . . . 165

8. Guerin, accomplice of Chandelet (No. 4). Reason rather acute, developed, and somewhat educated—42 years of age—stature rather tall.

The encephalon weighed 1394 gram.
 cerebrum . . . 1240
 cerebellum . . . 145

9. Lemoine, the assassin of the chamber-maid of Madame Dupuytren. Intelligence developed and cultivated—40 years of age—middle stature.

The encephalon weighed 1310 gram.
 cerebrum . . . 1140
 cerebellum . . . 170

* An English pound of avoirdupois weight is equivalent to 433 grammes.

10. Lacenaire. Intelligence developed and cultivated—34 years of age—stature short.

The encephalon weighed 1355 gram.

cerebrum . . . 1205

cerebellum . . . 150

Remarks. If we cast our eye over the preceding ten measurements, it will be seen that the medium or average weight may be stated, as we have said at first, at about 1340 or 1350 grammes. The heaviest on the list is that of Lhuissier (No. 1), and the lightest is that of Chandelet (No. 4); the former weighing 1496, and the latter only 1192 grammes.

If we endeavoured to establish any relation between the mental development or character of these criminals, and the weight of their encephala and of its two great divisions, it might be remarked that Bardon, Lhuissier and David, in whom the encephalon or the cerebrum was the most heavy, were not the most intelligent; that in Lacenaire, on the other hand, the brain weighed considerably less than in them, and that if in Chandelet, with his brutal passions, the cerebellum was large, the cerebrum weighed as low as it does in many idiots, and yet he indicated no want of intelligence.

But we have no intention to discuss this most difficult question, as we most willingly admit that a number of considerations ought to be taken into account, in such an enquiry. It might, for example, be objected that we have not sufficiently attended to the size and weight of the whole body in reference to the weight of the encephalic mass; nor to the relative weights of its two great parts, the cerebrum and the cerebellum; nor to the education of the individuals; and, even if we were provided with accurate data on these topics, phrenology might then step in, and remind us that we have forgotten to attend to the comparative size of the different convolutions; and, then supposing that we had done this, that we have neglected to take into account the temperament of each individual, and the activity of the cerebral functions.

Our intention therefore at present is

only to afford accurate observations of what we ourselves have examined and ascertained; and we now, in pursuance of this plan, shall proceed to give some other measurements of encephala, such as we have found them in idiots and lunatics.

1. Gobinot, 24 years of age, and of middle stature. *Idiotism of the lowest grade*: no power of speech, but only inarticulate sounds, and cries. He seemed not to have even the natural instinct of hunger, and would not eat, unless induced to do it.

The encephalon weighed 1320 gram.

cerebrum . . . 1135

cerebellum . . . 185

2. Inconnu, deaf and dumb, 43 years of age, and of a stature somewhat above the ordinary. *Idiotism of the lowest degree*. No speech, and scarcely any sign of intelligence.

The encephalon weighed 1370 gram.

cerebrum . . . 1205

cerebellum . . . 165

3. Darvoz, 39 years of age, and of middle stature. *Idiotism which places the individual below the brute*. No speech; sensations dull; a slight degree of memory; incapacity of clothing himself, or of defending himself against any external injury.

The encephalon weighed 1256 gram.

cerebrum . . . 1064

cerebellum . . . 192

4. Courtois, 46 years of age, and of middle stature. *Idiotism of the lowest degree*. Physiognomy almost simian. Incapable of answering to any question, or of taking any care of his person.

The encephalon weighed 1045 gram.

cerebrum . . . 907

cerebellum . . . 138

The anterior cerebral

lobes . . . 226

5. Boulot, 37 years of age, stature rather tall. *Idiotism of a very low degree*. The intellect is almost quite abolished; to all questions he answers, "ma tete, mon front, sont egarés," or "dans la province de Joiny, ou a fait de moi un pauvre fou pour me perdre." He is often much excited and very turbulent. He has no regard to his animal feelings, and his life is almost entirely vegetative.

The encephalon weighed 1380 gram.
 cerebrum . . . 1188
 (its anterior lobes) 192
 cerebellum . . . 300

6. Rollet, 46 years of age and of large stature. *Idiotism very confirmed*. His intelligence was almost at zero. He said, for example, that he was only three years old, and it was only with extreme difficulty that he could pronounce a few words. His physiognomy was quite idiotic. He was employed at the Bicetre to turn the wheel of the great well there.

The encephalon weighed 1025 gram.
 cerebrum . . . 896
 (its anterior lobes) 250
 cerebellum . . . 135

7. Cresson, 23 years of age, and of large stature. *Imbecility very strongly marked*. Speech embarrassed and stammering; physiognomy dull and heavy; although capable of manual work, never could be taught any art.

The encephalon weighed 1105 gram.
 cerebrum . . . 920
 cerebellum . . . 185

8. Mallebranche, 44 years of age; stature rather tall. *Idiotism quite confirmed*. Speech scarcely intelligible. Extreme chorea of all his limbs.

The encephalon weighed 975 gram.
 cerebrum . . . 825
 (its anterior lobes) 240
 cerebellum . . . 150

9. Favelle, 57 years of age; middle stature. *Imbecility with irregularity of muscular movements*. He was admitted into the Bicetre as an idiot at the age of 12; and the only work, he was enabled to do, was to assist in turning round the wheel of the well. His speech and his walk were embarrassed and difficult. His arms were in a constant trembling. His intelligence was correct, but very inconsiderably developed.

The encephalon weighed 1235 gram.
 cerebrum . . . 1077
 (its anterior lobes) 300
 cerebellum . . . 158

10. Chamblin, 67 years of age, middle stature. *Imbecility only partial*. He was never however, able to gain his livelihood by any occupation; and, in consequence of this, he was put into

the Bicetre at the age of 24. His intelligence was very small, but correct, as far as it went. His speech was stammering and uncertain. Being capable of considerable bodily exertion, he was employed at the hospital to assist the servants in various ways.

The encephalon weighed 1365 gram.
 cerebrum . . . 1215
 cerebellum . . . 150

Remarks. If we compare the various measurements in the preceding ten cases, we shall find that the following may be given as the average weights of the encephalon and of its great divisions.

The encephalon weighed 1218 gram.
 cerebrum . . . 1043
 cerebellum, . . . 165

It thus appears, as well as we may judge from a limited number of data, that the encephalon and its divisions are less weighty in idiotic than in healthy persons. If we examine the subject more attentively we shall find that this diminution of weight does not affect the cerebrum and the cerebellum quite alike; the latter part in the idiot being nearer the healthy standard than the former. The whole encephalon is about one-thirteenth less heavy; the cerebellum is about one-eleventh; and the cerebrum is only one-seventeenth.

Such are the general results deducible from the facts which we have detailed. But if we now pass on to the particular examination of the cases we shall not find any correspondence between the weight of the encephalon or of its parts, and the amount of intelligence, or, in other words, the degree of mental imbecility of the person. Thus, in Gobinot, Boulot, and Inconnu the weight of the encephalon equalled or even exceeded that of the organ in the healthy individual, although these poor miseries were in the lowest degree of idiotism; and, on the other hand, in Rollet and Cresson, both men of large stature, the encephalon was less heavy than in the three former, although their intellects were decidedly less degraded.

Dr. Lelut closes his interesting communication by repeating the two general

conclusions, which may, he thinks, be legitimately drawn from the premises; viz. that the encephalon is generally less weighty in the idiot than in the sane person; and secondly, that the deficiency of weight is in most cases more considerable in the cerebrum than in the cerebellum.—*Gazette Medicale*.

REPORT OF THE ACADEMY OF MEDICINE ON THE TREATMENT OF TYPHOID FEVER BY PURGATIVES.

The report was drawn up by M. Andral in his own name and in those of M.M. Louis, Bricheteau, Bouillaud, Double, and Bailly, on a work recently published by M. De Larroque, and submitted to the Academy.

A considerable period of time had elapsed since the appointment of the commission to examine into the merits of this work. The reason which M. Andral gives for this delay is quite satisfactory. He and his colleagues wisely thought that, on a question of practical medicine, the fair and legitimate mode of procedure would be to try experimentally the treatment which was proposed by the author, and to compare the results of their own practice with those which had been adduced by M. De Larroque.

Several of the members of the commission, therefore, engaged in this undertaking: and the following was the plan on which they sought to proceed. They wished to treat, at first, a hundred cases of typhoid fever by the purgative method; then another hundred by the use of antiphlogistics; and lastly a third hundred by "une methode à peu près expectante."

Having obtained these data, they would then be able to analyse and compare the different results, and thus hoped to arrive at an accurate and indisputable solution of the question for inquiry. "But," says M. Andral, "de telles recherches ne sauraient s'improviser."

It appears, therefore, from this admission that the decision of the commission was founded more on the pre-

assumed opinions of the different members, than on any series of experiments instituted at the time for the purpose. With that judicious caution, for which M. Andral is justly celebrated, he prefaces his report by requesting that it may be viewed only as a "travail provisoire."

These remarks may be useful, as introductory to the following details.

"If the Pyrexia," says M. Andral "which in the present day is called typhoid fever, is merely a gastro-intestinal inflammation, and if the numerous and varied symptoms which it exhibits during its progress are only the sympathetic effects of the primary irritation of the digestive passages, then the question as to its treatment must be of very easy solution: the antiphlogistic method, more or less actively pursued, is necessarily the only safe and scientific practice.

If, however, while we admit that typhoid fever has its "point de depart" in a phlegmasia of the digestive passages, we suppose that there is the peculiarity of the follicular apparatus of these passages being the special seat of the morbid action; and if, moreover, at a longer or shorter time after the first appearance of the lesion of the digestive tube, there manifest themselves a certain number of symptoms, which are not all considered (as the advocates of the former theory maintain) to be merely the sympathetic effects of the intestinal phlegmasia, but which are supposed to be owing to the absorption of the putrid matters which are deposited on the interior of the ulcerated bowels, and to the consequent poisoning and infection of the mass of blood and therefore of the whole system, then the therapeutic problem is much more complicated and difficult of solution.

On these principles we can understand how that, independently of the antiphlogistic treatment, the physician will endeavour either to discharge the hurtful and absorbable matters contained in the bowels—and hence the utility of purgative medicines will be admitted—or to correct if possible, the infection of the blood by means of tonics, the chlorurets, and so forth.

Lastly, if in typhoid fever the intestinal lesion be viewed only as one of the elements or symptoms of a disease, which, like genuine typhus* (*vrai typhus*), or like small-pox, attacks the whole organism of the body, we are forced to admit that the question as to treatment is placed upon a new footing.

The therapeutic principles must necessarily vary according to the views which are taken of the primary nature of the disease. If it be supposed that its nature or essential character is uniformly the same, and modified only in different cases by the accidental circumstances of age, constitution, weather, climate, &c., then most assuredly the same general principles of treatment must be applicable to all, or at least to most cases. Some writers maintain that a "sur-excitation" of the sanguiferous system is the predominant feature of typhoid fever; and by them the antiphlogistic or debilitant mode of treatment is recommended. Others, on the contrary, have supposed that an asthenic state, primary, or consecutive, (to speak the language of the Brunonians) is the culminating pathological condition; and with them the chief indication in the treatment is to support the vital powers by means of stimulants and tonics.

Besides these two sects, the Sthenists and the Asthenists, there has been a third sect, whose followers have maintained that the most important pathological feature in typhoid fever is a vitiation of the fluids, in consequence of the presence in them of a morbid principle absorbed from the intestinal tube; and by these physicians, there-

fore, as we have already said, the purgative and antiseptic treatment has been especially patronised.

But whichever of these three doctrines may be adopted, it is apparent that the practice founded upon either of them must be to a certain degree uniform and exclusive. It may admit of change and modification, according to circumstances; but the physician, if sincerely convinced of the truth of his hypothesis, is in reason bound to base his practice upon its deductions.

Very different, however, from this mode of procedure are the views and precepts of the Eclectic school of medicine. According to the doctrines of this school, the judicious physician will not trouble himself about the proximate cause of the disease, which he is about to treat. He will be satisfied with studying and watching the symptoms in each individual case, and, unaffected by any hypothesis as to the primary cause of these, he will only direct his remedies to counteract or abate them. It is by following this path of investigation that Pinel and others have divided fevers into several families or classes, according to their prevailing type. Hence we read of the inflammatory, of the bilious, of the ataxic, and of the adynamic forms of typhoid fever, in the writings of this class of physicians. To each of these different forms an appropriate method of treatment has been proposed; and we are directed to pay especial attention to a variety of circumstances which influence and modify the type of individual cases; such as age, temperament, constitution of the atmosphere, the prevailing character of the epidemic, and numerous other physical and also moral influences. In many cases we are reminded that there are not any very distinctly-marked symptoms, these being rather negative than positive; and hence we are cautioned against adopting a practice "*toujours agissante et perturbatrice*," under such circumstances. It is to this set of uses that the "*methode expectante*" is peculiarly applicable; that method which is so beautifully alluded to in these words of Sydenham:

* It appears from this remark that many of the French physicians, and perhaps M. Andral is one of the number, regard typhoid fever as essentially distinct from "*vrai typhus*." We need scarcely say that this doctrine is not received by English pathologists. The typhus *miliarius* and the typhus *gravior* are regarded as degrees of the same disease, which varies according to constitution, season of the year, character of the epidemic, and so forth.

"Natura enim sibi permissa negotium suum suo tempore exsequitur . . . ut nostrâ ope, nostris artificiis atque auxiliis non indigent; suis viribus optimè instructa, suis opibus locuples, sou denique ingenio satis edocta."

It is in one or other of these methods that physicians have treated the disease known by the name of typhoid fever. During the last 15 or 20 years, the antiphlogistic treatment has been almost universally adopted in France; and the chief difference in the practice of our physicians has consisted only in the activity in which this method has been pursued.

There have however, been a few who have entered their protest against the universality of this practice, and who have assiduously maintained that numerous cases of typhoid pyrexia may be most advantageously treated by other means, and more especially by the use of purgative medicines. One of the most sagacious practitioners of this metropolis, whose loss the Academy has lately had to deplore, M. Lherminier, adopted this practice very frequently, many years ago, at La Charité.

The results, which he obtained, are detailed in M. Andral's own work on clinical medicine. Since his time, the use of emetics and purgatives has been tried by several physicians with various degrees of success. Of these M. Larroque has been perhaps the most assiduous. He has attempted to prove that, in almost all cases of typhoid fever, the daily use of some evacuant, either emetic or purgative, is very beneficial, whatever may be the lesions with which the fever may be complicated, the character of the symptoms present, or the temperament of the patient.

The work, in which he has recorded his observations, and which forms the groundwork of the present report to the Academy, is partly theoretical and partly practical. In the first, he endeavours to prove that a vitiated state of the biliary secretion acts an important part, if not in the production, at least in the keeping up of the febrile movement: "Vicieusement accumulé dans les intestins, elle devient pour la mem-

brane muqueuse digestive une cause très-puissante d'irritation, et c'est ainsi que cette membrane peut se phlogoser, s'ulcerer," &c. He accounts for the lower end of the ileum and the cæcum being chiefly affected by supposing that the depraved intestinal secretions have the tendency to lodge there; and he says that this lodgment is very generally indicated by a gurgling noise emitted on pressure over the part. The cerebral and other nervous symptoms, as well as the occasional alteration in the state of the circulating fluids, he attributes to the absorption of the vitiated intestinal fluids into the mass of blood.

These ideas, it will be observed, are nearly the same as those which were professed by Stoll in the last century. He too trusted chiefly to emetics and purgatives in his treatment of typhoid fever.

If the theory were correct, the practice would be perfectly judicious; but it cannot be denied, that it is almost quite gratuitous to assert that the bile in fever is so much vitiated as to become of itself the cause of the serious lesions in the intestinal tube, which are discovered on dissection. Besides this objection, it may be remarked that the intestinal folliculi have been found swollen and inflamed at a very early period of the disease, before the bile, it may be presumed, could have lodged sufficiently long to induce such a morbid change; and again, in several cases in which the use of active purgatives has been adopted from the very commencement of the symptoms, and in which therefore all the intestinal secretions must have been most effectually evacuated, the same train of phenomena—such as the disturbance of the function of innervation, and the alteration in the character of the fluids—has been observed during the progress of the disease, and the same lesions of structure have been found after death, as when the bowels had remained quite inactive.

But, setting aside all merely speculative objections, let us now examine the results of M. Larroque's experience in the treatment of typhoid fever by the

use of purgatives. The number of cases which he has reported amounts to nearly one hundred. They occurred chiefly within the walls of the Hôpital Necker, of which M. Larroque is one of the physicians; and among them we find examples of all the grades of the disease, from the slighter form, which resembles "un simple embarras gastrique, ou une légère enterite," to the more serious form, in which a state of extreme adynamia is present. In all, without exception, the same method of treatment was pursued. Without regard to the type of the symptoms, the state of the tongue, &c., two grains of emetic tartar were administered at the commencement. On the following day a bottle of Seidlitz water was given; and this was repeated daily, as long as the pyrexia lasted. If this purgative disagreed with the patient, other laxative, such as calomel, cream of tartar, castor oil, may be substituted. Whenever the febrile state has nearly subsided, M. Larroque counsels the use of mild tonics and light nutritious food. Throughout the whole course of the disease, the beverage is either lemonade or rice water.

Whatever complication may be co-existent with the fever, M. Larroque makes little or no modification of his treatment, except when he has reason to suspect the presence of pulmonary engorgement. In that case, he employs Kermes mineral in repeated doses along with the purgative remedies.

As to blood-letting, M. Larroque condemns it as altogether inappropriate to typhoid fever. There is scarcely an exception, he says, to the universality of this remark. M. Andral, however, expresses his surprise at these statements in the following terms:

"M. Larroque cannot be ignorant that many cases of typhoid fever have been combatted by sanguineous depletions with a boldness which has been justified by incontestible success. Hence it follows, that if the utility of blood-lettings, rare or repeated, large or small, is not in the opinion of all sufficiently demonstrated; at least their general and absolute condemnation is not in

accordance with the observation of facts."

To justify the evacuating treatment, as recommended by M. Larroque, he has published a table of 100 cases treated on this plan. Of these, ninety were cured; and in several of the fatal cases, the treatment was not commenced until after blood-letting had been previously used, or very unfavourable symptoms had set in.

Such success is, as M. Andral remarks "fort remarquable." He is, however, too candid to question the accuracy or authenticity of the reported cases; and he alludes at the same time to the writings of some English physicians as in a great measure confirmatory of M. Larroque's statements; and also of M. Bretonneau to the same effect.

It deserves also to be mentioned that, since the first announcement of M. Larroque's plan, many of the hospital physicians in Paris have given a trial, partial indeed, to the purgative treatment. Of these, Dr. Piedagnel is the only one who has published his reports. He has treated 134 cases chiefly by the use of purgatives. In only a few cases he employed venæsection and emetics. Of the entire number he lost only 19. Although this success is not quite so great as that obtained by M. Larroque, it is still very highly satisfactory.

M. Louis, at La Pitié Hospital, treated 31 cases of *genuine* typhoid fever by purgatives. Of these 28 recovered. Of the three fatal cases, two belonged to the "cas graves," and one to the "cas moyens." Of the successful cases there were five "cas graves," seven "cas moyens," and fourteen "cas légers."

M. Andral himself also has given a very fair trial to M. Larroque's method. He treated 48 cases of what he considered indisputable typhoid fever. In 30 of the cases the symptoms were "très légers;" all did well. In eleven other cases the symptoms were much more severe, and indeed alarming; nine recovered, and two died. The remaining seven cases had already reached the

ataxo-dynamic stage, before the purgative treatment was commenced. Six died.*

The mortality therefore in M. Andral's practice is greater than that in the cases reported by M. M. Louis and Piedagnel, and very much greater than in those of M. Larroque.

If we now take the whole number of cases, treated by these four gentlemen, they will be found to amount to 213. Of these, 40 proved fatal; thus giving the rate of mortality at rather less than one-seventh.

Let us now compare the preceding results of the purgative treatment with those of other methods.

Of eighteen cases, two-thirds of which were "grave," and which were treated by M. Andral partly with depletions of blood and partly with purgatives, six proved fatal—thus giving a very high rate of mortality.

Of twenty-seven other cases, two-thirds of which were mild, and which were treated with moderate blood-lettings exclusively, six only died. All these six cases were "graves," when the patients were subjected to the treatment. It would be unfair, adds M. Andral with great candour, to conceal that M. Bouillaud has met with much greater success with copious detractions of blood, than I have in my own practice.

Lastly of fourteen mild cases, which were treated with simple diluents and low diet, all recovered.

M. Andral, after detailing these particulars, cautions his readers very properly not to allow their minds to be too much biassed by these or similar arithmetical statements, as there may very possibly be little or no parity in the different sets of cases.

Returning to the consideration of M. Larroque's method, he repeats the

declaration, that not a few very serious cases of typhoid fever are successfully treated by the daily use of purgatives, and that almost all the milder cases may be beneficially treated in this manner. The truth of this assertion is proved by most indisputable evidence, and cannot fail to suggest some useful considerations to the reflecting reader. All know that fifteen or twenty years ago many physicians in this metropolis (Paris) declaimed most vehemently against the use of all purgatives and emetics in any case of typhoid fever, contending that they were sure to aggravate the disease, and to convert the milder into the severe and fatal forms. These rash statements are now most clearly proved to be quite erroneous; and we have seen over and over again all the symptoms of the pyrexia gradually and very easily dissipated under the daily use of the Seidlitz water.

M. Andral acknowledges that these facts are not new to some physicians, (we suspect that he here alludes to the British school in particular) who have all along admitted the great utility of purgatives in typhoid fever; and, addressing his brother-academicians, adds: "mais à la plupart d'entre nous elles apparaissent comme des faits inconnus et en quelque sorte étranges."

(Nothing can more convincingly shew the utter ignorance, on the part of most French physicians, of the past and present state of medical science in this country.—*Rev.*)

In conclusion M. Andral gives it as his opinion and as that of other commissioners, that M. Larroque deserves very high praise for having recalled the attention of his brethren to the above most important point in medical practice. He recommends his brother academicians, and medical men generally, to give a fair and dispassionate trial to the plan proposed, not only in numerous cases of one epidemic or during any single year, but in successive years, and in all variety of circumstances. He with great propriety alludes to the varying type or general character of different epidemics, and to the necessity which such a diversity ought necessarily to produce in treating the same disease

* We cannot but express our surprise at such *experimental* practice as this. Is it to be wondered at that patients, in an extreme degree of debility and exhaustion, should sink under the constantly-repeated action of evacuants of any sort?—*Rev.*

during different epidemics. Hence all exclusive and, as it were, specific modes of treatment must be at once unscientific and improper. "Nous reconnaissons," adds he, "avec la plupart des grands maitres, qui nous ont précédés dans notre difficile et laborieuse carrière, que dans toute maladie, quel que soit son siege et quelle que soit sa nature, peuvent apparaitre certains états généraux de l'organisme qui en changent la physiologie, en compliquant la nature et en modifiant la thérapeutique." Thus what with the modifying influences of age, sex, temperament, state of mental feelings, as well the weather, climate, and other less appreciable atmospheric influences, diseases which to the mere anatomist seem to be nearly or altogether alike, are very different in the eyes of the judicious physician.

(The admirable precept inculcated in the preceding two sentences cannot be too much insisted upon in the present day, when there is such an indiscriminate passion for attempting to reduce the phenomena of life, in health and in disease, to a few simple states of action.—*Rev.*)

In concluding his very able report, M. Andral takes the opportunity of cautioning his hearers against the errors of a too implicit reliance on mere numerical details, however exact they may be in determining the value of any therapeutic means. He adverts to the circumstance, well known to the experienced practitioner, that a plan of treatment, which succeeds admirably well one year, or during one epidemic, may be insufficient or even hurtful during another; and he reminds us that there is no remedy, however absurd and ridiculous it may be, which cannot boast in the opinion, or at least in the statements, of some, great and manifold success in certain diseases. "The medical arithmeticians," says M. Andral, "have supposed that it was quite sufficient for all practical purposes if they merely collect and count an ample number of cases; whereas it must be quite obvious that they should count also the circumstances peculiar to each individual case. Now, as these circumstances are infinitely varied, it

follows that, under a therapeutic point of view, we meet with very few examples of disease in which all their conditions are the same and which therefore can be properly compared with each other." The concluding sentence of the report is so eloquent and beautiful in the original, that we cannot refuse ourselves the pleasure of submitting it to our readers in M. Andral's own words:

"Pénétrés de ces principes, persuadés que l'esprit de doute est la sauvegarde de la science et la garantie de ses progrès, votre commission a l'honneur de vous proposer, tout en rendant justice au mérite de M. Larroque, d'ajourner tout jugement définitif sur la valeur de son traitement, jusqu'à plus ample informé, et jusqu'à expérimentations plus nombreuses et plus longtemps continuées; de le remercier cependant de ses intéressantes communications, de l'engager à les continuer, parcequ'elles ne pourront être toujours que bien accueillies, et de déposer honorablement son mémoire dans les archives de l'Académie."

On the conclusion of the reading of the report, M. Bouillaud was the first who rose to address the Academy. He commenced his remarks by defining typhoid fever in these words: "An inflammation of the small intestine and of its follicles, with a *typhoid element*, the nature of which is not well understood, superadded to it."* He then proceeds to laud his favourite practice of blood-letting "*coup sur coup*" in almost all cases. Our readers, however, have of late read, in this Journal, so much of M. Bouillaud and of his practice in typhoid fever, that it would be an utter waste of time to go over the ground again. He acknowledges that he has not tried himself the purgative treatment, recommended by M. Lar-

* This definition is faulty in the extreme; the first member of the predicate being an evident assumption, the truth of which is far from being universally recognised, and the second being a mere statement of an unresolved difficulty.—*Rev.*

roque. His opinion, therefore, on this subject cannot have much weight. He says, however, that the very reports of M. Larroque afford a much less decided success, than those which he has published of his favourite practice of blood-letting. Of the entire number of cases alluded to by M. Andral, which were treated by the purgative plan, there was a mortality of one in seven or eight; whereas in his (M. Bouillaud's) cases the mortality did not exceed one in sixteen.

M. Piorry followed M. Bouillaud. He said that he quite agreed with M. Andral as to the errors which are apt to arise from trusting too much to statistics, or the numerical method, applied to medicine. No disease varies more in its peculiar complications and general character than typhoid fever; and in no disease, therefore, is it more necessary to vary or modify the treatment according to the circumstances of each case. In some cases the physician is obliged to draw blood, for the purpose of relieving congestion or inflammatory action; in other cases purgatives are imperiously called for, to evacuate offensive accumulations in the bowels, and to promote the flow of healthy secretions; in a third set the "methode expectante" will be found at once the most simple and the most efficacious. M. Piorry is, therefore, quite opposed to any single exclusive or uniform practice in the treatment of typhoid fever. "Le traitement general n'est autre que la collection des indications particulieres mises à execution." He illustrates his remarks by referring to the varying characters of pneumonia according to the cause which has produced it, and the other morbid states of the system with which it may be complicated.

There are no fewer, says he, than eight different species of the disease.

1. The traumatic.
2. The simple and regular, connected with a plasticity of the blood.
3. That which follows bronchitis, bronchorrea.
4. That which results from the action of poisonous substances.
5. Or, from the absorption of purulent matter into the system.
6. Or, from the stagnation of the blood

in the depending parts of the lungs, from long confinement to the horizontal position (the *pneumonie hypo-statique* of our author). And, 8. The pneumonia, which is occasioned by a mechanical obstruction to the circulation. Now these eight different kinds of pneumonia are apt to be associated together in statistical tables, as if they were all of the same character, and all required exactly the same method of treatment. So also it is apt to be with the statistical tables of typhoid fever. M. Piorry closed his speech with the following very sensible remarks. "I always pay especial attention, in each individual case, to the phenomena of causality and symptomatology, which the patient may present; I endeavour to ascertain the organo-pathological states which may exist, and strive to combat them as they arise. The *ensemble* of the separate indications constitutes in my opinion the most prudent general treatment; and this again must vary according to season, locality, climate, prevailing character of each epidemic, &c. I am decidedly opposed to the practice of employing "une methode exclusive et banale, quels que soient les resultats d'additions, dont les unités ne seront pas bien précisées."

M. Castel then addressed the Academy. He also professed himself much opposed to the "ennui des chiffres, et la tyrannie des statistiques." He had a higher opinion of the "methode expectante" in the treatment of typhoid fever, than of any other general plan; although he was quite willing at the same time to admit the utility of purgatives, bloodletting, &c. in individual cases. He very justly contended that the fever has a certain course to pass through, certain phases to experience, and a certain "jugement" to undergo.

Now too-frequently repeated, or too active evacuations must necessarily thwart and obstruct Nature in her operations, and stifle, as it were, that very reaction, without which a safe cure cannot be effected.

The *bleeding* system and the *purging* system are both equally liable to the same objection. They are far too exclusive; and their advocates do not pay

sufficient attention to the peculiarities of each case—peculiarities which manifestly require modifications of treatment. M. Castel says that he is friendly to the use of bloodletting, purgatives, and emetics, when there are obvious indications for their employment; but that he is decidedly hostile to the practice of following any particular method in all cases. In conclusion, he particularly condemns detraction of blood, whenever the fever is accompanied with diarrhœa—a complication, it is well known, of very frequent occurrence.

Here the discussion closed for the evening. It was resumed at the next seance of the Academy. The president for the evening, M. Renaudin, announced that he had received a letter from M. Larroque, in which he particularly desired that the members would not limit their discussion merely to the method of treatment recommended, but would examine the etiological question, whether the entero-mesenteric inflammation is the cause of the typhoid fever, or whether it is the result of the irritating unhealthy secretions which are poured into the intestines—the doctrine which he advocated, and on which is based the purgative treatment.

M. Rochoux was the first speaker on the second evening of the discussion. He professed himself to belong to the Eclectic class of physicians—that class which refuses to acknowledge any one particular or exclusive doctrine, as to the etiology and treatment of typhoid fever. He called in question the correctness of that favorite idea of so many of his colleagues, that the lesion of the intestines was the cause, or “point de depart” of the disease; and he therefore did not hesitate to condemn the uniform adoption of antiphlogistic remedies. He urged upon his hearers the importance of attending to the following circumstances in the treatment of typhoid fever: the dynamic state of the vital powers, the nervous condition of the patient's system, the state of the fluids, the state of the liver and other digestive organs, and lastly, the reigning or prevalent constitution. The ever-varying intensity of these different agencies must necessarily influence the

characters and severity of the symptoms, and must necessarily so modify the disease that, without destroying its unity, it will require great difference in its treatment. Typhoid fever is always a very complex disease, which becomes still more so in certain epidemics, and which demands the greatest care and discrimination for its management.

With respect to the practice of repeated bleedings recommended so earnestly by M. Bouillaud, M. Rochoux states that, although he is quite unwilling to question the accuracy of his statements with respect to his great success, he himself gave a fair trial to the practice many years ago, when the opinions of M. Broussais were dominant, and was obliged to abandon it in consequence of its injurious effects. It increased the nervous symptoms, the subsultus tendium, the delirium, &c.

The same remark is applicable to other diseases as well as to typhoid fever. Thus M. Rochoux has met with cases of pneumonia in which, after the second or third bleeding, the patient's strength has suddenly become exhausted, and he has died as from asphyxia. The same occurrence he has noticed in several examples of erysipelas with delirium.

M. Bousquet then “prenait la parole.” He admitted that all fevers, be their characters what they may during life, exhibit on the dissection of the patient nearly the same lesions of the intestinal canal. But while he made this admission, he was most willing to allow that there is great diversity of symptoms, and that there ought to be great diversity of treatment. He acknowledged that “la semeiotique est frequemment sacrifiée à l'anatomie pathologique.” He is therefore quite opposed to the adoption of any exclusive or universal method of treatment.—“Un homme,” says he, “arrive dans un hôpital avec une fièvre continue. Si son étoile le dirige sur Necker (the hospital where M. Larroque practices), il sera purgé, purgé, purgé; sur l'hôpital de la Charité (M. Bouillaud) il sera saigné abondamment et coup sur coup. Faute de deux cotés. D'une part, toutes les fièvres continues ne de-

mandent pas les évacuans des premières voies; et de l'autre, toutes n'exigent pas la saignée" M. Bousquet, like most of his predecessors in the debate, questions very much the utility of those registers, or statistics of cases, which are adduced by M. Bouillaud and others of that school, to prove the superior advantages of any particular line of treatment, especially during any single epidemic. Lastly, he expresses his opinion that the practice of the judicious practitioner will vary according to the symptoms of each individual case, and that he will not bind himself with the fetters of any special hypothesis.

M. Louis then addressed the Academy. He defended, against the attacks of most of his colleagues who had preceded him, "la statistique appliquée à la médecine." He considered it, he said, as "l'espoir de la science," and adduced some arguments, drawn from the history of other diseases besides typhoid fever, in favour of the plan. It is however unnecessary to enter upon this theme at present. The readers of this Review are probably well aware, that we have not so high a value for the numerical collection of cases as M. Louis and M. Bouillaud have. The numerical method applied to pathological anatomy is excellent; applied to therapeutic medicine, it is apt to be fallacious and inaccurate. M. Louis, it appears, did not enter upon the immediate subject of the discussion—the treatment of typhoid fever. We shall therefore pass on to the next speaker.

M. Bricheteau, one of the colleagues of M. Larroque, at the Hôpital Necker. "Although," said he, "typhoid fever has always its seat in the follicles of the intestinal canal, we must confess that it exhibits great diversity in its symptoms. M. Bricheteau is on the whole not friendly to the numerical method. He mentioned that when the "entero-mesenterique" fever appeared upwards of twenty years ago in the wards of the Hôtel Dieu, the *internes*, of whom he was one, used to meet together to canvass among themselves the merits of the different remedies, which were employed by the physicians of that great hospital. And what was

the result of these discussions? "la mortalité était à peu près la même de toutes parts!" The late indefatigable M. Dance followed out this examination with great zeal, and the result of his enquiries was, that he found that the antiphlogistic and the tonic plans of treatment were both equally defective. He therefore gave the preference to the "methode expectante."

M. Bricheteau however confessed himself to be very decidedly favorable to the practice recommended by M. Larroque. He has imitated it in his own wards, and has experienced similar success; and he adduced the testimony of M. Bonneau, one of the physicians of the Hôpital des Enfants Malades, in favour of the use of purgatives in the typhoid fevers which he had treated there, during the last three years. —*Bulletin de l'Académie.*

Remarks.—We have no intention of prolonging this article by any observations of our own. But we cannot but express our surprize at either the ignorance or the unfairness of the French Academicians, in not once alluding to the labours of Dr. Hamilton of Edinburgh, and of other British physicians, in this most important department of medical practice.—*Rev.*

DISCUSSION AT THE FRENCH ACADEMY ON THE NATURE AND TREATMENT OF GLANDERS IN MAN.

M. Rayer, the well-known author of the admirable work on Cutaneous Diseases, and one of the physicians of La Charité Hospital, communicated the following case.

A groom was in the habit of sleeping in a stable, where a glandered horse died. When he was admitted into the hospital, he presented a pustular eruption on the skin, and in the nasal fossæ and larynx; there were ecchymosed and gangrenous patches behind the ears, on the glans penis, and on the feet; indications of small abscesses in the lungs, and of large purulent collections in the substance of the muscles; and

lastly, there were other symptoms usually grouped together under the name of typhoid. The man died; and on dissection the following morbid appearances were discovered. The cutaneous pustules, when examined, were not unlike to those seen in cases of ecthyma or of variola. Similar pustules were found in the nasal passages and also in the larynx. Numerous vomicae were detected in the substance of the lungs, and in several muscles there were large abscesses filled with a sanguineous purulent matter.

These are the very lesions which are discovered in the bodies of horses, that have died of genuine glanders. We cannot therefore refuse to admit, that the case now detailed was one of the same disease, occurring in the human subject. But in order to prove indisputably the correctness of this assertion, M. Rayer inoculated a horse with the matter of the pustules from the groom, and the result was that the horse became affected with glanders.

M. Dupuy, one of the most distinguished veterinary surgeons in Paris, and attached to the great horse-establishment at Alfort, addressed the Academy to the following effect. He recognised two species or forms of glanders (*morve*), the chronic and the acute. The former is truly a tubercular disease, affecting chiefly the substance of the lungs. The tubercles are in a greater measure composed of a chalky matter, as has been proved by the beautiful experiments of M.M. Thenard and Lassaigue. There is therefore a tubercular diathesis in the bodies of the lower animals, as well as in the human subject. M. Labillardiere has analysed the milk of a cow, which was affected with tubercles in the chest, and he discovered that it contained a much larger proportion of phosphate of lime, than in health. When this cow died, an attempt was made to preserve the skeleton; but this was found impracticable, in consequence of the extreme friability of the bones.

Sometimes the tubercles commence as hydatids. A chalky secretion takes place from the interior of the cysts,

and ultimately they are converted into solid tubercles.

The chronic form of glanders, such as we have now described, is not contagious. The acute form, on the other hand, is highly so. It has no resemblance to, or analogy with, the chronic species; and indeed it ought not to be called by the same name. It is much more similar to the rot or scab of sheep; and this latter may in many respects be compared to the small-pox in man. Such at least is my (M. Dupuy's) opinion, although I know that many veterinary surgeons disagree with me. We have met with several cases of a disease in the horse, which is very closely allied with the rot in sheep, as well by its exterior and interior characters, as by its symptoms and the morbid lesions found after death. We have given it the name of "*eruption claveliforme*." (The word "*clavelée*" is the French for the "*rot*.")

With respect to the acute form of glanders, I deem it a disease essentially eruptive, and highly contagious. He proposes to designate it by the appellation of "*coryza gangrenosa*."

M. Barthelemey rose next to offer his sentiments on this curious subject. He alluded to the category of symptoms, in such a case as that related by M. Rayer, as indicating a disease quite distinct from any in the ordinary nosological catalogues. The three leading symptoms are the usual flux, the tumefaction of the submaxillary and cervical glands, and the appearance of ulcers on the pituitary membrane. It usually runs its course in from five to twelve days. From the commencement of the disease, there is a general malaise, feverishness and disturbance of all the vital functions; the nasal discharge consists of a serosity mixed with a viscid matter, which is at first of a yellowish and subsequently of a red colour, bloody and very fetid; the pituitary membrane is red and afterwards purple or even quite black; it swells, becomes much thickened, and then ulcerates; the breathing through the nostrils is difficult and snorting, and sometimes the dyspnoea in con-

sequence is so great, that the animal dies quite asphyxiated. The cervical ganglia are much enlarged and very painful on pressure. When the glands are complicated with the farcy, tumors of the size of a walnut or thereabouts make their appearance in the subcutaneous cellular tissue. Some of these are single or isolated; while others form clusters around the large lymphatic vessels, which follow the course of the principal subcutaneous veins. These tumors, of a soft consistence from their first appearance, break in course of time, and form ulcers; the matter which they contain is viscid and red; the animal becomes rapidly weaker and more emaciated, and speedily dies. On dissection, the pituitary membrane is found in the state we have described above; it is softened, and partially destroyed either by large ulcerations or by gangrenous eschars.

The chronic form of glanders is very different. Its course is so slow that, were it not for the presence of the three characteristic or pathognomonic symptoms, the affected animal might seem, for months or even for two or three years to be in moderately good health. It preserves its appetite, embonpoint, strength and liveliness, and it may be as fit for work as any other horse. The nasal discharge, usually from one nostril, is the first symptom which attracts notice: sometimes, however, this is preceded by a tumefaction of the sub-lingual lymphatic glands. The discharge is at first scanty, and of a whitish colour; it adheres to the nostrils, and partially plugs them up. Perhaps the disease does not make any visible progress for a length of time. It may appear to be stopped for some months. Again the symptoms return; and then probably the nasal membrane is found to be partially ulcerated.

The chronic glanders is sometimes complicated with farcy; the acute form is very generally so. The farcy is, properly speaking, a disease essentially of the lymphatic system. It is characterised by the presence of the subcutaneous tumors, which we have

described above. These tumors are usually hard and indolent at first and afterwards become soft and painful. Some are transformed into ulcers: the matter is usually white, of a thick consistence, and inodorous. Those veterinary surgeons, who regard chronic glanders as non-contagious, view the farcy in the same point of view. Farcy is certainly a much less fatal disease than glanders. Out of a hundred horses affected with the former, the surgeon may expect to cure between seventy and eighty; whereas it is very rare that a cure of genuine glanders ever takes place.

M. Barthelemy then proceeds to consider the question of transmissibility of glanders from the horse to the human subject. He is not inclined to believe in this opinion. The glanders he considers as a disease essentially and exclusively affecting the Solipedous animals, such as the horse, ass, mule, &c. He says that if a glandered horse is kept with cows or sheep in a stable, the latter have never been known to be affected; and he also alludes to the extreme infrequency with which men, who are constantly engaged in the stables of glandered horses, are ever affected with analogous symptoms.

At the vast veterinary establishment of Alfort, where upwards of 600 glandered cavalry horses were sometimes collected during the war, none of the pupils or other attendants were ever known to be affected.

From all this, he is very doubtful as to the propriety of regarding the disease in M. Rayer's patient as genuine glanders. The man had led an irregular debauched life, and had ruined his constitution by all sorts of vicious indulgence. M. Rayer states in his report that the nostrils were dry; there could not therefore be any nasal discharge. Neither does it appear that the cervical lymphatic glands were swollen and inflamed. As to the gangrenous vesicles observed in the body, we certainly meet with these occasionally in the horse; but they are only of occasional or accidental occurrence (epiphenomenes), and not a characteristic symptom of the disease. The

morbid appearances found on dissection also were not very distinctly those of genuine glanders. The pituitary membrane was not thickened, softened, black, nor ulcerated, as it is usually in a glandered horse.

In fine, M. Barthelemy expressed himself to be very doubtful as to the true character of the disease in M. Rayer's patient; and he confessed that he was not yet convinced that the genuine glanders of the horse is ever transmitted to the human subject.

M. Rayer replied to the objections of M. Barthelemy. He said that the horse, which died in the stable where his patient had slept, was affected with the genuine acute form of glanders, and that it had been sent to the *esquarrissage* (Anglice, the knacker's) on the tenth or twelfth day of the disease.

He did not quite agree with M. Barthelemy in regarding, as pathognomonic of genuine glanders, the three symptoms of nasal discharge, tumefaction of the submaxillary glands, and ulceration of the pituitary membrane. All these symptoms are present, in a greater or less degree, in the chronic form, which most veterinary surgeons, and M. Barthelemy among the number, carefully distinguish from acute or genuine glanders. M. Rayer distinguishes three forms of the latter: one is accompanied with ecchymosis and gangrene of the pituitary membrane, with sanguineous infiltration of the larynx, and with hemorrhage, and patches of inflammation in the substance of the lungs; another with an eruption of pustules and with ulceration of this membrane; and the third with both these morbid states united.

"And do not," added he, "suppose that I have improvised these distinctions: they are drawn from nature, and you will find their elements in the Treatise on Acute Glanders of our distinguished colleague M. Dupuy."

He proceeded to state that he had himself seen, more than once, in horses which had died from genuine glanders, ecchymoses, gangrenous patches, pustules and ulcerations in the nasal passages, pustules on the skin, collections of pus in the subcutaneous cellular

tissue, ecchymosis, and, lastly, hepatized and purulent points in the substance of the lungs. Now these are the very lesions which were discovered in this patient, whose case he had read to the Academy. He again alluded to the very convincing argument drawn from the result of the inoculation of a healthy horse with the matter taken from his patient. This horse died (or was killed) on the twenty-first day after the inoculation was performed, and the following lesions were found on dissection, in the presence of several distinguished friends. There were several pustules in the nasal fossæ; large ulcerations at the edges of the nostrils, and smaller ones on the septum narium; farcy ulcerations near the eyelids, consecutive to pustules developed in the subcutaneous tissue; minute points of hepatization and of ecchymosis in the substance of the lung; and lastly an inflamed and suppurating condition of the submaxillary glands and lymphatic vessels.

With such facts as these before us, we are bound to believe that our patient died of genuine glanders.

M. Bouley then addressed the Academy. He commenced his remarks by drawing a distinction between the chronic and acute forms of glanders and of farcy. Chronic glanders, he said, is a tubercular affection, which has its chief seat in the pituitary membrane. It is peculiar to the solipeda. It commences obscurely, and its progress is very slow at first. The earliest symptoms are either slight tumefaction of the sublingual lymphatic glands, or a whitish-coloured discharge from one of the nostrils. These symptoms gradually increase in severity. The glands become more swollen and painful; the discharge is more copious, assumes a yellowish colour, and adheres to the edges of the nostrils; the pituitary membrane becomes discoloured, and begins to exhibit numerous white specks, which on examination are found to be tubercles in a state of crudity. At length, after a lapse more or less considerable of time, the tubercles soften, and ulcerations develop themselves on the mucous membrane of the nose.

As long as the glanders is local, that is to say, confined to the nasal cavities, the horse may retain every appearance of health, and may be as fit for work as ever, in point of strength at least.

On dissection, the nasal mucous membrane is found of a yellowish colour, thickened and covered with a greater or less number of deep ulcerations which are usually most numerous along the venous sinuses, the *alæ nasi*, and the lower part of the spongy bones. The veins are ordinarily filled with a purulent matter, and here and there we observe crude or softened tubercles. Lastly, the lymphatic glands are found to contain a softened tuberculous matter—a phenomenon which we never discover in the acute form of glanders, and which alone suffices to distinguish it from the chronic.

The chronic form of farcy is not quite so well known as that of glanders. According to some, it consists in a chronic inflammation of the lymphatic vessels; according to others, in a peculiar morbid alteration of the lymph itself. It manifests itself by the eruption of tumors, more or less circumscribed, and of various forms. These are always situated along the *trajet* of the lymphatics, and are produced by the inflammation of the cellular tissue surrounding them. The tumors, which are at first painful, become in the course of the disease cold and hard: they continue for some time in this state, and at length become soft. The purulent matter, which they are found to contain, is of a whitish hue, and of a peculiar oily aspect, characteristic of the disease.

The wounds resulting from the opening of these tumors shew no disposition to heal, but quickly assume all the characters of genuine ulcers.

In conclusion, chronic glanders and farcy so closely resemble each other in many features, that one is often the prelude of the other. Farcy, however, is usually less serious than glanders; the latter being almost always incurable.

Let us now briefly consider the two diseases which have been improperly designated acute glanders and acute farcy.

Under the former designation, veterinary surgeons have been long in the habit of confounding two affections, the acute glanders properly so called, and the gangrenous glanders. The first of these forms consists in a sub-acute inflammation of the pituitary membrane, with a development of pustules, which ulcerate and give rise to a more or less copious discharge. It is always accompanied with a painful engorgement of the lymphatic glands of the throat, is highly contagious, and almost invariably terminates fatally.

In the early stage of the disease, besides the "*tristesse et l'abattement*" of the horse, the pituitary membrane is observed to have a yellow colour. There are next seen on this membrane pustules, which are red at the base and white at their tops. A yellowish and sanious discharge flows from both nostrils, and the lymphatic glands in the neighbourhood become swollen and painful. After the lapse of a few days, the pustules ulcerate; the discharge becomes more abundant and more glutinous; the nasal passages become more swollen, and the respiration in consequence is difficult and labouring. While these morbid changes are going on, the skin also in many cases becomes the seat of numerous papulæ or small tumors, which speedily soften and suppurate. The strength of the animal is rapidly exhausted, so that death usually occurs in from eight to twelve days.

In such cases we find on dissection deep ulcerations, which are surrounded with red areolæ; the pituitary membrane is in a great measure destroyed; the sinuses and hollows of the spongy bones contain a bloody purulent matter. We find also sometimes similar pustules on the mucous lining of the larynx and of the trachea. The lymphatic glands are red and infiltrated with a serosity; and the subcutaneous cellular tissue also is infiltrated partly with serum and partly with effused blood.

There cannot be a doubt that this form of glanders is highly contagious. Chronic glanders is certainly not. But if on this latter form there should supervene the acute form, then decidedly the case will be found conta-

gious. It is probably by not having attended to this complication, that some veterinary surgeons have asserted that chronic glanders is contagious. According to our experience it is not, unless complicated with the acute form.

The second or gangrenous form of acute glanders,—the *coryza gangrenosa* of M. Dupuy—has been very generally confounded with the form just described. The animal is, from the beginning of the disease, dull, weak, and tottering; the pituitary membrane and the conjunctivæ of the eyes are “pointillées en rouge;” and the limbs, scrotum, nose, &c. present an oedematous engorgement. After the lapse of 24 or 28 hours, the spots on the nasal membrane widen and extend, and they at the same time assume a livid colour. The engorgement of the limbs increases, and the animal begins to discharge a yellowish matter mixed with streaks of blood. This state of things continues for two or three days. Then the pituitary membrane becomes more livid, and soft, and throws off gangrenous eschars, under which are found deep ulcerations. The discharge is still more copious, and exhales a most fetid gangrenous smell; the respiration becomes more and more impeded in consequence of the increased tumefaction of the nasal passages, and death speedily ensues. On dissection, numerous patches, gangrenous, ulcerated, and ecchymosed, are found along the pituitary membrane; the subjacent tissues are more or less deeply disorganized, and numerous petechiæ, or soft gangrenous patches are discovered in the trachea and also in the substance of the lungs.

This form of the disease, in which the circulating fluids are very obviously much altered, is contagious like all carbuncular affections.

So much for the two forms of acute glanders. Let us now very briefly consider the characters of acute farcy. This, like its chronic form, has its seat in the lymphatic vessels; but it proceeds in its course much more rapidly and moreover exhibits very different symptoms. It commences with a slight eruption, under the form of cords or streaks, which disappear and then re-

turn. The papule or small tumors gradually increase in number over different parts of the body, and remain persistent. At the end of four or five days, they soften, ulcerate and penetrate into the subjacent tissue. Often at this stage of the disease, a similar eruption manifests itself in the substance of the pituitary membrane, and in some cases causes a speedy death by suffocation. This affection should not be confounded with the eruption, with which the acute form of glanders is often complicated. It seems to result from the researches of Delafond, the professor of pathology at the great veterinary school of Alfort, that the tumors which are developed in the latter disease, are strictly pustular, and have their seat in the cutaneous tissue, whereas those of acute farcy have their seat in the lymphatic vessels.

In conclusion, M. Bouley thus expressed his opinion respecting the disease, under which M. Rayer's patient laboured. He pointed out certain features, in which the symptoms differed from those of genuine glanders in the horse. His own words are: “ nous sommes donc forcés de reconnaître qu'il n'y a point parité entre la maladie de Prot, et la morve aigue du cheval; mais l'exactitude et la bonne foi veulent que nous convenions aussi que, si ces maladies ne sont point parfaitement semblables, elles ont du moins quelques points d'analogie qu'on ne peut nier.”

He is very doubtful that the patient was infected by the horse, which had died in the stables; and he does not hesitate to say that he is not satisfied whether glanders be ever communicated from the beast to man. He points to the extreme frequency of the disease in large stables and in certain seasons, while the analogous affection in the human subject is of extremely rare occurrence amongst the grooms who are in constant attendance.

Finally he suggests to the consideration of the Academy, that it might be very well that the question as to the transmissibility of glanders from the horse to the human subject should be fairly and minutely discussed.

M. Velpeau was the next speaker.

He had seen M. Rayer's patient, and had subsequently examined several glandered horses. The result of his observations was that the man Prot had most certainly died of glanders.

As to the objections urged by M. Barthelemy and others against the transmissibility of the disease, M. Velpeau is not inclined to attach much weight to them.

The alleged circumstance of the disease being of very rare occurrence amongst the grooms of a stable, where there may chance to be a number of glandered horses, ought to be well sifted, before we are influenced by it. It is to be kept in mind, for example, that it is only within the last few years that the attention of medical men has been directed to this inquiry. While it was not even suspected that glanders could be transmitted from the horse to man, the profession heard little or nothing of the disease. Not knowing what to make of certain cases, it is more than probable that many practitioners have omitted to keep any reports to them, or if they did, the details were meagre and inaccurate. Need we say more on this subject, than merely remind our readers how long cowpox must have existed, before it was understood by, or even known to, medical men?

We must admit, indeed, that the disease of the man Prot did not exhibit all the phenomena of genuine glanders. There was not, for example, the peculiar, yellowish, and glutinous discharge from the nostrils. It is possible, however, that the secretion may have flowed backwards, and been rejected by the mouth; for he certainly "*rendait par la bouche une matiere semblable à celle que rendent les chevaux par le nez;*" and this supposition is not at all unlikely, when we take into account that the patient lay constantly on his back. The pustules which were found on the nasal and laryngeal mucous membrane were, it cannot be denied, very similar to those which we meet in a glandered horse.—*Bulletin de l'Academie.*

ON THE ENDERMIC AND INOCULATIVE METHOD OF TREATMENT.

We shall first narrate three or four cases, and then append a few remarks.

CASE 1. *Intermittent Fever treated by the Endermic Method.*

A man aged 38, was received into the Hôtel Dieu, on the 21st of March. He had an intermittent fever which had lasted seventeen days; the first attack was caused by witnessing the sudden death of one of his companions. The fever came on towards eleven and lasted till four.

The 25th March, at nine in the morning, two grains of sulphate of quinine were spread on a small blister applied to the epigastrium. The fit returned, but was delayed two hours and a half, and only lasted an hour and a half instead of five hours. Two grains more of sulphate of quinine were applied to the sore. The 27th and 28th March, no attack; sulphate of quinine was however given internally, and there was no further appearance of fever.

Another patient with a similar complaint was admitted into the Hospital the 21st April; two grains of sulphate of quinine were applied the 25th, three hours before the supposed time the attack came on. No fever appeared. Two more grains were applied the following day, and four grains the day after; the medicine was then administered internally, and the man was cured. In several other cases a stronger dose of quinine has been applied, and the effects obtained have been nearly similar. M. Chomel has always concluded by prescribing a few grains of sulphate of quinine to be taken internally.

CASE 2. *Cancer of the Uterus treated with Acetate of Morphia applied Endermically.*

Madame Detty, aged 53 years, having all the attributes of perfect health; married at five and twenty; mother of five children; her labours were always severe; at the birth of the last child forceps were employed, and the infant was still-born. At the age of 51, she

had a dartre (herpes) on the left forearm; sulphureous baths were ordered, and brought on an irritation in the interior of the womb, and an abundant menorrhagia. The treatment at the hospital Necker proved fruitless. The womb was explored through the speculum, in the course of July, 1824; there was hard scirrhous unequal congestion on the neck of the uterus, it bled on the slightest pressure; there was a white discharge, with a fætid odour; great difficulty in voiding the urine; the skin was yellow, and the flesh turgid and bloated. The patient grew worse in November, she was in agonies, rolled in her bed, and loudly invoked death as her only relief. Narcotics, the most powerful antispasmodics, strong doses of spirit of morphia, had no effect. The cruel sufferings were only allayed, and the blessing of sleep procured, by putting two grains of acetate of morphia on a seton. The application proved so soothing that her existence was prolonged till the 20th December, 1824, without any further sufferings. This observation proves that in cases where a cure cannot be hoped for, great advantages may nevertheless be found in external applications.

CASE 3. Rheumatism cured by the Application of Acetate of Morphia to a Blistered Surface.

A young man, named Choubert, aged 24, a baker by trade, was seized with such violent pains in all his limbs, that he could neither move nor sleep. The patient attributed his complaint to excess of fatigue in kneading the bread, intense perspiration, and sudden cold after his hard work. On the fourth day after the appearance of the disease, the pains settled in the shoulder, the arm and left elbow, the limbs affected were perfectly motionless, a continual burning pain, the patient lost his appetite, and his countenance bore an expression of sorrow and suffering.

The 10th March, a blister was applied to the arm, but gave no relief. The 13th, the surface of the blister was covered with half a grain of acetate of morphia. Spent a good night, slight pain, no function disturbed. The 14th

and 15th, same medication, same effect. The 16th, one grain of morphia, complete relief, no change in the functions, excepting slight contraction of the eyelid. The 17th and 18th, the applications having been omitted, the patient spent two bad nights, and suffered considerably. The 19th, one grain of morphia, the patient quite calm, but cannot raise his hand. The same means continued until the cure was complete.

CASE 4. Asthma treated by the Endermic use of Musk.

M. Loliot, aged 62, a farrier by trade, was admitted into the hospital Cochin, with an intense orthopnea; the slightest rale was heard. The complaint was so violent that the patient remained seated, holding fast any object near him, his shoulders up to his ears, his head thrown back, mouth open, his neck stretched out, as if endeavouring to meet the air he longed to breathe. Bleeding having given only momentary relief, a draught containing six grains of musk was administered. Abundant perspiration, breathing easier, circulation less rapid; the dose was increased to ten grains, and the patient left the hospital cured. He went to his work for two months, at the end of which he returned to the hospital in the same state as before. A blister was applied to the arm, and at the expiration of a week it was covered with six grains of musk. A few hours after it was found to have precisely the same effect as if given internally,—abundant perspiration, after which increased relief, and rapid disappearance of all accidents. Cure followed.

CASE 5. Nervous Headache cured by the Inoculation of Morphia.

A woman admitted into the hospital Beaujon, was very subject to nervous headache. On a former occasion she had experienced great relief by the application of a blister to the temple, the blistered surface being afterwards dressed with an ointment containing some muriate of morphia. Dr. M. Solon made trial of the endermic use of morphia in a different form this time. He made eight punctures in the temporal region with a lancet impregnated with

a strong solution. The patient was speedily cured, but felt inclined to sleep during the day.

It is chiefly to the researches of MM. Lembert and Lesieur that the profession are indebted for having illustrated the good effects which may be derived from the application of various medicines to the skin deprived of its epidermis. One very great advantage of the practice is, that the most potent remedies may be sometimes used in cases, where the judicious physician might be unwilling to introduce them, even in the most minute quantities, into the stomach or rectum. Moreover the direct application of anodyne medicines to the seat of a painful affection will often succeed, when constitutional or general means fail of relief. It has been very well remarked—Why have medicines always something uncertain in their action? It is because they reach a surface ever varying in its condition, or the intestinal mucous membrane is irritated and covered with mucosities, or perhaps the stomach and bowels are full. In subcutaneous absorption, on the other hand, the absorbent vessels (and perhaps also the capillary veins) are always in a free state, when the skin has been recently deprived of its epidermis.

Hitherto the endermic, or, as some call it, the inoculative method of treating diseases, has not been much attended to in this country. The most potent and available remedies are perhaps the vegetable alkalies; more especially the salts of morphia, strychnine, veratrine, &c.

We are indebted for the facts in this and in two or three of the subsequent articles to the late numbers of the Continental and British Medical Review, edited by Dr. Rioffrey, of which we have already spoken favorably. We trust that Dr. R. meets with the encouragement, which he deserves.

ON THE ACTION OF CERTAIN MEDICINES ON THE HEART.

The following observations are from the pen of Dr. Lombard of Geneva.

1. *Assafœtida*. This is one of the most potent remedies against the irregularities of the heart's actions, when they depend upon a nervous or functional cause. Even when there is organic disease present, the internal use of assafœtida is often productive of very decided benefit, by checking, or at least moderating the palpitations, and by inducing a state of calm. When we prescribe the internal use of the medicine, we may administer it either in the form of pill or of mixture. Three grains or thereabouts, taken twice or thrice a day, will be a sufficient dose in most cases. The most convenient form of employing it externally is that of a plaster applied over the region of the heart. The formula recommended by Dr. Lombard is as follows:—

Assafœtida, ʒij.

Gum ammoniac, ʒj.

Turpentine, gutt. vj.

Yellow wax, q. s.—Misce.

2. *Camphor*. Given in doses of from three to twelve grains has a very decided influence in moderating any violent action of the heart. It also assists the heart in expelling its contents, when it is overloaded with blood, and cannot easily discharge it at each contraction of its ventricles. Hence in many cases of dilatation, it is of great and very decided benefit. The following observations are so good, that we shall extract them in the author's words:—"This state of discomfort—from the heart not being able to expel the blood from its cavities, in consequence of their imperfect contractions—which is sometimes temporary, sometimes permanent, appears to be properly modified by camphor. A few days, even a few hours, have sufficed under this treatment to regulate the most violent ventricular contractions and shortness of breath, and irregular circulation ceases after the administration of a few grains of camphor. Is the action of this medicine sedative, or stimulating? This is a question on which I cannot presume to decide; but it is evident, after the researches I have made on the treatment of diseases of the heart, that care must be taken not to prescribe lowering medicines; and that the heart hypertro-

fied, but with obstacles at the orifice, or with dilatation of its cavities, must be considered as a muscle fatigued by the continual efforts requisite to maintain an equilibrium between the arrival and departure of this circulatory fluid; so that it *should be* strengthened, and its weakness counteracted by tonic medicines, and its action regulated by anti-spasmodic stimulants. Thence the indication of steel and quinine in the first case, camphor and assafoetida in the second.

3. *Digitalis*. The sedative action of this drug is, at best, most uncertain and unsatisfactory. Its successful administration seems to depend upon attention to a multitude of circumstances, such as the state of the stomach, the mode of living, the amount of the dose exhibited, and so forth. If the stomach is in a state of irritation, *digitalis* seems to exert little or no influence on the action of the heart. Under these circumstances it very often induces sickness, nausea, and even vomiting. If this disagreeable effect is induced, we should try to arrest it by effervescing draughts; but if these fail, the use of certain antispasmodics, such as æther, oxide of zinc, the nitrate of bismuth, or even opium itself, may be found necessary.

If *digitalis* is administered with the view of subduing palpitations of the heart, the doses should be rather large, than small and frequently repeated. A grain, for example, of the powdered leaves, or three spoonfuls of an infusion, (a scruple of the leaves to six ounces of water,) may be given three or four times a day. The infusion is certainly the most potent preparation, and the one on which we can best depend. It is however more apt to induce nausea than the dry powder in the form of pills. As respects the corrigents of *digitalis*, we find the following remark of Dr. Lombard. "What best succeeds to avoid or allay the symptoms of saturation is calcined magnesia, subnitrate of bismuth, subcarbonate of steel, and oxide of zinc. Several English practitioners have prescribed powder of calcined magnesia. I have always em-

ployed it with subnitrate of bismuth, so that I am unable to remark on its action when administered alone. Subcarbonate of steel is the best adjuvant of *digitalis*; to this medicine may be attributed the absence of accidents to persons who have taken *digitalis* daily, during several months. Oxide of zinc also arrests the symptoms of saturation of *digitalis*."

4. *Polygala Senega*. This drug is perhaps too little used by medical men. Taken as an infusion, says Dr. Lombard, it appears to diminish the circulation, and regulate the ventricular contractions.

In persons affected with diseases of the heart, dilatation of its cavities, *polygala* has corrected the irregularity of the heart's pulsations, and has lessened the sanguine stasis which seemed to threaten the dissolution of the patient. The doses given, vary from twelve to twenty-four grains of *polygala* in the course of the day; an infusion prepared with a drachm, and four ounces of water, has been given in four-and-twenty hours.

OBSERVATIONS ON THE CANCRUM ORIS OF CHILDREN.

To this very formidable disease of infancy various appellations have been given; such as *sloughing phagædena of the mouth*, *gangræna oris*, *cancer aquaticus* or *water-canker*, *gangrenous stomatitis*, &c. &c.

It occurs most frequently about the period of dentition. Sometimes however we meet with cases in children of from two to five or six years of age; and examples of a similar affection are occasionally met with even in adults.

The disease commences with a purple spongy appearance of the gum, either of the upper or of the lower jaw; to this state speedily follows ulceration, which eats deeper and deeper, until the alveolar processes are quite exposed. The ulcerated surface is much disposed to bleed, so that its character is often with difficulty ascertained.

In severe cases, the ulceration rapidly passes into a state of gangrene and sloughing; and these morbid changes extend from the gums to the lips and inside of the cheeks. The diseased surface becomes quite black, the teeth drop out, the jaw-bone becomes carious, and even the tongue may become partially destroyed.

In some cases, the disease commences in the lips or cheek, and extends thence to the gums.

The accompanying constitutional symptoms are usually an irritative feverishness, and a greater or less degree of diarrhoea, which quickly reduces the young patient's strength, and speedily carries him off.

Cancrum oris generally occurs in week, unhealthy, and ill fed infants. It is often a sequela of remittent fever, scarlatina, small-pox, &c. The disease is always dangerous, and very frequently fatal among the lower orders. In better life its progress may be often arrested.

As an example of the disease in its worst state we quote the following case from Dr. Hamilton's observations on the remittent fever and water canker, as reported in the *Cyclopædia of Medicine*. The child was five years of age, and had recently recovered from mild small-pox. The ulceration was reported to have existed only a week, although already it had made great havoc. It had extended from the gums to the palate, which, as well as the plates of the maxillary bone, was destroyed, so that there was a large perforation into the nose, the cavity of which was involved in the disease, the septum and spring bones being carious. The fetid acrimonious discharge from the mouth and nose produced ulceration of those portions of the skin with which it came in contact. In less than two days after, the cartilage of the nose was destroyed, and the disease had spread to the upper lip; it then continued progressively to involve hard and soft parts, until the nose, cheeks, eyes, and lips were successively destroyed. It had even extended to the brain, through the cribriform plate of the ethmoid bone and orbits, before the unhappy child fell a victim to the disease.

Some authors have erroneously compared cancrum oris to the scorbutic gangrene of the lips and gums, seen in genuine scurvy. But the analogy is not correct.

Young children very rarely are affected with genuine scurvy; and moreover, in cases of cancrum, we never observe the usually external symptoms of the former disease. In cancrum oris, the gangrenous ulceration is usually limited to one side of the face, or at least it affects one much more than the other side. In scurvy, on the other hand, the local disease affects both the upper and under jaw, and generally also both sides; the gums become tumid, and, as the disease proceeds, livid and disposed to bleed; a fungus shoots out covering the teeth, which do not fall out as in genuine cancrum oris, unless the sockets become decayed. Besides other local differences, the constitutional symptoms are very different in the two diseases. Cancrum oris is always accompanied with high irritation of the system, which is never, unless merely accidentally, present in genuine scurvy.

We have already stated that cancrum oris is infinitely more frequent in weak, ill-fed, and unhealthy children of the poorer classes, than in the higher walks of life. Dr. Hamilton was of opinion that certain localities, &c. predispose to the occurrence of the disease. It is more frequent in low, damp, fenny districts, than in higher and purer positions. It has been observed to be most malignant and fatal in warm weather after a rainy season, or when epidemic diseases of a putrid character, such as small-pox, measles, or angina maligna, have prevailed. It is especially fatal, when it occurs in children, who are recovering from any of these diseases.

From Dr. Hamilton's observations, it does not appear to be at all contagious.

With respect to the treatment, its success depends greatly on the progress which the disease has already made. When the ulcerative progress is confined to the gums, a cure may be generally effected. Aperients and other constitutional remedies are almost always

requisite, to subdue the constitutional feverishness and disturbance. When these are corrected, the local disease is often arrested, and the ulceration is found to heal spontaneously. Should it however become indolent, its surface may be touched with the oxymel ærugines, tinctura ferri muriatis, or with a mixture containing one drachm of muriatic acid and an ounce of the honey of roses.

When the disease assumes the character of sloughing phagedæna, our object must be to arrest the extension of the local mischief, and to support the powers of life at the same time. For the latter purpose, after we have evacuated the bowels gently with warm aromatic purges, we may give ammonia with vegetable bitters, syrup of sarsaparilla, and small doses of wine. Mild nutritious food, such as beef-tea, or any other animal broth, should be administered frequently.

The muriatic acid is the best local application. Combined with the honey of roses, it should be freely applied to all the diseased surface, and the mouth may be frequently washed out with a strong acidulated decoction of bark, to which some laudanum has been added. If the child cannot use a gargle, the mouth should be washed out with a syringe. The black wash is a good application when the ulceration begins to heal, or in the early stage of her disease.

In the worst cases of the disease, when it has extended to the bones, we cannot expect to be of much use. The pure muriatic, or nitric acid applied to the sore, and large doses of the carbonate of ammonia taken internally, are the best remedies we can use.

As illustrative of the disease, we are tempted to extract the following observations of M. Baudeloque, one of the physicians of the Hôpital des Enfants at Paris, as reported in Dr. Rioffrey's Journal.

Gangrenous stomatitis, or the gangrenous inflammation of the mouth in young children is very common in large towns, especially among the poorer classes. It is, therefore, by no means surprising there should be so many

cases of it in the hospital for sick children. During the last six weeks, four affections of this kind have been treated by Dr. Baudeloque, and notwithstanding the danger of this disease, proved fatal only to one of the four children. We shall give a rapid sketch of the four cases, and shew the plan of treatment adopted by Dr. B.

On the 13th of September, a little girl, six years and a half old, was admitted into the hospital, with a cankerous affection of the mouth. This child had been ill for a week, and still had remains of the measles rash; the face was much swelled, the left side œdematized, the eyelids nearly closed; in the middle of the cheek there was a sore rather larger than a shilling; inside the mouth was an ulceration, and the whole depth of the cheek was invaded; lower down there was another sore; a dark discharge, of very fetid odour, flowed from the mouth; the gums were swelled and bleeding. Two large sinapisms had been applied to the legs during the measles, and there remained two large gangrenous sores invading the chief part of the teguments of the legs. Auscultation shewed that the lungs were seriously affected. The pulse was slow, scarcely perceptible, and a continual diarrhœa contributed to weaken the patient.

Although there could be but little hope of recovery, Dr. Baudeloque had the internal sore cauterized with hydrochloric or muriatic acid, and externally with a hot iron; the eschars were then to be sprinkled with the powder of chloride of lime. He also prescribed a mixture of the drachm of acetate of ammonia, and an ounce of syrup of quinine, two moderate injections of bark, and the sores of the legs to be powdered with the chloride of lime.

The cauterization was renewed several times. The following day the pulse was better, there was no swelling round the cauterized parts, and the face was less œdematized.

On the 26th, the cauterization was again made on the internal sore; four ounces of Malaga wine, to be taken by spoonfuls, were prescribed; the syrup

of quinine, the acetate of ammonia, and other means indicated, were continued, but the young patient sunk, became delirious, and died on the 28th.

A post mortem examination was made the ensuing day. The periosteum of the whole side of the lower jaw to the articulation was detached. The lungs were hepatized in various degrees, and sprinkled with miliary tubercles; the digestive tube was empty.

There was not the slightest chance of saving this patient; the state of the lungs rendered all care useless.

The cauterization, however, seemed to have a good effect on the stomatitis which made no further progress, the fetid odour no longer existed, a degree of reaction had taken place, but the double pneumonia and excessive supuration arising from the gangrenous sores on the legs, necessarily led to a fatal termination. In the other three cases this cauterization has been followed by happier result, though one child was very young, and her state most serious.

A little girl, of five years old, had several gangrenous spots on the cheeks and upper and lower gums. This disease had also made its appearance during the measles. There was cough, fever, diarrhoea, and the running from the mouth was so fetid, that it was difficult to examine it.

All the gangrenous parts were touched with hydrochloric acid, and then powdered with chloride of lime. Syrup of quinine, tonic and antiseptic injections were prescribed. The fetid odour soon disappeared, and the gangrenous spots did not increase. The upper and lower teeth fell out with the sloughs, and a large splinter of the maxillary bone, so that after the child's recovery there was a double solution of continuity, which seemed to result from two semi-elliptic sections made in the upper and lower jaw.

This cure is undoubtedly very remarkable, and quite unexpected, for children of the same age taken into the hospital, and having any severe illness seldom recover.

The other two cases offer but little interest, after those just related. A

little girl, admitted into the hospital, had been ill three months; there was a considerable swelling of the under maxillary ganglia on the left side. When the mouth was opened, several ulcerations of the cheek, the palate, and the tongue were visible; this affection appeared local. The ulcers were touched with hydrochloric acid, then covered with powder of chloride of lime. A gargle of honey and syrup of bark was prescribed.

The progress of this stomatitis was arrested after the second cauterization, and the young patient left the hospital cured, at the end of a week.

The fourth case is that of a little girl, who had two large ulcers in the cheek and on the tongue; the same treatment was followed as for the other child, and she seems to be in a fair way of recovery.

In the two latter patients, the stomatitis existed independently of any other disease, which does not often occur. This affection is almost always concomitant with an eruption, and especially with the measles, and there are generally serious lesions in the lungs, so that the stomatitis may be considered a dangerous complication, which hurries on the fatal termination.

The digestive tube does not in general shew very distinct marks of inflammation, and the purging is apparently owing to deglutition of the matter secreted by the gangrenous mucous membrane of the cheek. The preparation of bark, especially in union with opium, appears to be useful in moderating this diarrhoea.

GENERAL REMARKS ON THE DISEASES OF CHILDREN. By M. BAUDELLOCQUE.

We have mentioned in the preceding article that M. Baudelocque is attached to the large Hôpital des Enfants in the French metropolis. The chronic and acute cases are arranged in distinct wards, and the younger children, under five years of age, are kept apart from the older ones. There is a particular ward for those who are affected with

nervous or convulsive diseases, such as chorea, epilepsy, &c.

The class of chronic diseases which is perhaps more attended to than any other, is that of scrofulous, and also of cutaneous complaints. M. Baudelocque has devoted great time and labour to the study of these diseases, and the success which attends his practice is the best guarantee of his judgment and skill.

In reference to the general mode of treatment which M. Baudelocque follows in acute diseases of children, it deserves to be noticed that he is not friendly to the adoption of very active measures, except in a limited number of cases. Large bleedings, excessive purgation, or vomiting, he particularly deprecates; remarking, very justly, that in infancy and early youth there is, so to speak, such a strong tendency to health, that when it is disturbed even to a great degree, all that is generally required is to remove any impediments to Nature's own efforts, or at most to moderate their force, if excessive.

For the cure of bronchitis, angina, and in general all eruptive disease, he trusts chiefly to quietude, low diet, and the withdrawal of all stimuli. Gentle purgatives and diaphoretics may be advantageously administered at the same time.

In whooping-cough, he seldom bleeds, unless there be very evident signs of pulmonic inflammation, or the patients be very plethoric and strong. He puts them on spare light food, exhibits small doses of oxide of antimony, and gives a cough emulsion. Under this simple treatment, most of his cases do well.

Even in scarlatina and measles occurring in young children, he seldom employs leeches. It deserves, however, to be mentioned that Dr. Baudelocque has recourse to depletory measures much more frequently and also to a greater extent in his private than in his hospital practice; the children of the poor being seldom so full-blooded and so active as those of the more wealthy classes. The following sentence is full of sound practical wisdom.

Dr. B. does not think an acute ma-

lady can be got rid of by profuse bleeding. Its intensity may be diminished, its complications decreased, but to arrest it suddenly by bleeding is not possible. In a typhus fever for instance, neither sanguine evacuations, nor purgatives, can arrest the progress of the disease; it must have its course, and if bleeding be not injurious, it is at all events useless.

With respect to the general plan of treatment pursued by Dr. Baudelocque in the chronic diseases of children, he has great confidence in the continued use of mild warm aperient medicines. He usually administers a purgative draught twice a week. If the child is taking any other medicine at the same time, such as iodine, arseniate of soda, &c., it is always omitted on those days on which the purgative is given.

The purgative plan of treatment—a dose being exhibited twice a week—may be persevered in for a great length of time, not only without any pernicious effect, but with the most positive and decided benefit. Certain diseases have been completely cured by this simple medication; in others the symptoms are very quickly amended, and then the cure is easily effected by other means. The favorite form of aperient medicine which Dr. Baudelocque administers to children is strong senna tea mixed with coffee, to which a little milk may be added. The young patients take it without reluctance, and it usually acts briskly on the bowels.

Manna or sulphate of soda are sometimes substituted for senna.

The oxymel of squills is one of the best and most convenient remedies for coughs and most pectoral affections.

The alterative medicines which Dr. B. most frequently uses are iodine, extract of hemlock, arseniate of soda, barytes, &c. The food allowed at the same time is ample and nourishing. Animal food, and even wine or malt liquor, are often quite necessary in cases of chronic disease, especially when the child is of a lymphatic and scrofulous constitution.

ON THE TREATMENT OF GASTRALGIA,
by DR. LOMBARD.

The medicine, which above all others Dr. L. has found useful in this painful affection of the stomach, is the subnitrate of bismuth. Even in cases where we cannot hope to effect a cure, as in organic disease of the organ, the sufferings are usually much soothed by the use of the subnitrate. Whether the disease be accompanied with vomiting or not, we may generally expect to obtain relief from it. However, like all other medicines, the subnitrate sometimes fails. Under such circumstances Dr. Lombard has occasionally succeeded with the oxyde of zinc. From six to twelve grains may be administered in twenty-four hours. Its action seems to be very similar to that of the subnitrate of bismuth; both appearing to exert a sort of sedative effect on the pneumo-gastric nerves.

The zinc seems to be especially suited to those cases of gastralgia, which are connected, or, rather we should say, accompanied with leucorrhœa. The uterine discharge is not unfrequently much moderated under the continued use of this metallic tonic. But whether this effect is produced or not, it cannot be disputed that that form of gastralgia, which we so often meet with in weak pale females, who have long suffered from fluor albus, is often very quickly relieved by the oxide of zinc, either alone, or combined with extract of hemlock, or henbane.

Those forms of gastralgia to which we have hitherto alluded are very generally connected with a certain degree of atony of the muscular powers of the stomach. Hence along with the pain there are usually other symptoms of imperfect digestion, such as anorexia, flatulence, and eructations, and so forth. We cannot, therefore, be surprised that the class of vegetable bitters and tonics is so often of marked utility in relieving the distress of gastralgia. These medicines may be servicably combined, either with the metallic preparations mentioned above, or with one of the alkalis.

The action of alkalis is very different from that of bismuth and zinc; and it

often occurs that medicines belonging to this class succeed where metallic sedatives have failed. We have observed that pyrosis, acid vomiting, and gastralgia in all its forms, apparently dependent on acid on the stomach, generally give way when bismuth is taken. There are, however, some cases in which this medicament fails; then a chemical medication arrests the morbid symptoms; the use of soda, potass, magnesia and lime, often cures the different forms of gastralgia we have mentioned. The subcarbonate and bicarbonate of soda are most beneficial in cases of pyrosis and acid vomiting; they are also very useful in a species of gastralgia originating in the want of a sufficient quantity of salivary secretion.

Gastralgic symptoms are accompanied by dryness of the mouth in speaking, or after mental emotion, and particularly by the want of copious drink to assist mastication, and later on, digestion.

In these cases soda water, or the waters of Vichy, are most desirable; subcarbonate of magnesia, lime water, or a solution of caustic potass, answer the same purpose, in all cases where acidity is the predominant feature of gastralgic symptoms. The solution of caustic potass, administered in doses of a few drops in an aromatic infusion, has often succeeded when other medicines have failed; its action seems to be both chemical and tonic, and this combined property is precious in a number of cases where the acid secretion is caused by a debility, which tonics only can surmount.

There is a domestic remedy, which not unfrequently relieves gastralgia more speedily than perhaps any other; and that is a large draught of very hot water. A few drops of laudanum, taken in half an hour or so after the draught, are strongly recommended by the experience of some.

Every practical man is well aware of the influence of mental emotions on the state of the stomach generally; and hence we are prepared to expect that gastralgia should be not a little obedient to the agency of these. It is perhaps in consequence of this law,

that antispasmodic medicines are often so serviceable in cases of gastralgia. Valerian and assafoetida are among the best. Hydrocyanic acid is sometimes a very useful medicine. We have not yet alluded to the use of purgatives in this disease. Whenever we have reason to believe that the intestinal contents have been retained, or are in any way vitiated, the exhibition of aperient medicines may be expected to produce good. In chlorosis, and other diseases accompanied with an atony of the intestinal functions, a prolonged course of aloetic purges, in union with small doses of mercurial alteratives, are perhaps the most efficient remedies. Gastralgia, being a not unfrequent symptom of these states, is relieved at the same time.

So much for internal medicines. External applications, however, are not to be neglected. We borrow the following remarks from Dr. Riouffrey's Journal.

Internal medicaments are not employed alone in gastralgia; external applications, either sinapisms, blisters, moxas, or soothing plasters, or morphia and prussic acid, are most beneficial in vomiting, and in cramps in the stomach. Cutaneous derivatives are a valuable resource when other methods of treatment fail, or act slowly; sinapisms are useful when there is great pain, but blisters are far more successful, particularly if suppuration be maintained by epigastric pomatum: blisters applied to the epigastrium have sometimes cured gastralgia, that existed for a considerable length of time. The most desirable effects have been induced by a blister on the nucha in gastralgia, which depends apparently on the morbid state of the brain or pneumo-gastric nerves; it seems more appropriate to apply the derivative as near as possible to the origin of the nerve; this physiological consideration has led me to place the blister on the nucha, and thus succeed in calming vomiting that had existed several months; gastralgic pains are also relieved by the method I now lay before practitioners as one of the most effectual for vomiting, either spasmodic or of any other nature.

The use of antispasmodics and nar-

cotics, on the epigastrium, often succeeds in calming the most severe gastralgia. A plaster of assafoetida useful in cases of palpitation, is also efficacious in calming gastralgic pains, particularly when they originate in nervousness, and are relieved by antispasmodics. But whatever virtue assafoetida may possess, it is by no means equal to morphia and prussic acid, applied as frictions on the epigastrium; morphia and cyanuret of potass may be dissolved in water, in proportions of six to twelve grains of these salts, to three ounces of water; or they may be blended with lard—from three to six grains to one ounce—to form an ointment, which is then to be used in the endermic method.

CASE OF ABDOMINAL TUMOR, WHICH WEIGHED 120 POUNDS.

The patient, a man 58 years of age, had, with only occasional slight illnesses, enjoyed good health till about the end of the year 1833. At that time he began to be affected with hæmorrhoids. He was recommended by Dr. Guillon, his medical attendant, to leave these to nature, and not to attempt to stop the discharge of blood. He chose however, to follow his own plan, and applied a strong astringent ointment, which had the effect of preventing in a great measure the occasional hæmorrhage. He became much fatter than he was before; but the chief increase in size was in the abdomen. Dr. G. accidentally met his old patient, six or seven months afterwards, and being struck with the disproportionate bulk of his belly, he requested him to permit a manual examination. There was no unevenness or irregularity to be distinguished, but an uniform tense swelling of the whole surface. On tapping the abdomen with the hands applied to the two sides of the abdomen, a sense of fluctuation could be distinctly perceived. Dr. G. suggested the use of vapour baths, aloetic medicines, and the application of leeches to the anus, with the view of recalling, if possible, the hæ-

morrhoidal discharge. But his advice was not followed.

The size of the abdomen continued steadily to increase; but no inconvenience, save that from its bulk, was experienced. By the end of 1834, the abdomen measured more than four feet in circumference. In the right inguinal region there had appeared a tumor, of the size of an apple, which Dr G. took at first for a bubonocoele; but which he afterwards decided was caused by the enlargement of the lymphatic glands. On percussing the whole extent of the abdomen, the only part in which any resonance could be detected was in the left hypochondrium, where the stomach distended with gas, was probably situated. At this time, the limbs and face of the patient were observed to be considerably emaciated, and every now and then there was an œdematous swelling of both ankles. Still there was no decided disturbance in any of the important functions of life.

After the lapse of another twelve-month, Dr. G. saw his patient again. By this time he was so incommoded with the bulk of his abdomen, that he was obliged to confine his walks to the immediate neighbourhood of his house. He now tried the effects of drastic purges, digitalis, inunction of mercurial ointment, &c. But these means proving quite inefficacious, he submitted to the operation of paracentesis abdominis. The abdomen at this time measured three feet in length from the xiphoid cartilage to the pubes, four feet eight inches around at the umbilicus, and five feet and a half lower down. All the medical men, who were present, gave it as their opinion that the abdomen was filled with fluid. The trocar having been introduced to a moderate depth, it was withdrawn; but no fluid passed from the canula. The instrument was again introduced, and inserted deeper; but still no fluid flowed out. A probe being then passed along the canula, a resisting elastic object was felt. The idea of the case being one of encysted dropsy then occurred to the minds of Dr. G. and of his assistants. The abdomen was re-examined most attentively, and as the sense of fluctuation

was most distinct, it was determined to make a puncture on the other side of the linea alba. The trocar was introduced up to the hilt of its canula. But this operation was as unsuccessful as the other; no fluid escaped.

Three months after this unsuccessful attempt, the patient was seen by two other medical men of high repute, who after a most careful examination of the abdomen, gave it as their opinion that there was a large quantity of fluid in the cavity of the abdomen, and that paracentesis should be again performed. It was proposed that the trocar should be introduced this time in the line of the linea alba, three or four inches below the umbilicus. But no better success followed this attempt. A long probe was then passed along the canula to nearly a foot in depth, into the cavity of the abdomen. It communicated to the hand the sensation of numerous imperfect membranous partitions. It was supposed by some of the medical men that there was an immense accumulation of hydatids; while others confessed that they could not form any satisfactory conjecture as to the nature of the case. It was now proposed to establish several setons at different points of the abdomen, with the view of causing a copious suppuration. But this idea does not seem to have been carried into execution.

The condition of the poor patient became gradually more and more distressing. Not only was walking almost impossible; but now he could not lie on his back, for dread of suffocation. Often was he forced to rest on his knees and elbows for hours together, as he could not find ease in any other position. His general health too was much impaired; his limbs became œdematous, his strength gradually decayed, and death took place in the month of November, 1836.

On dissection the following appearances were discovered. The abdomen measured six feet five inches from the hypochondria to the pubes; three feet four inches from the xiphoid cartilage to the same point; and five feet two inches in circumference at the umbilicus. The sense of fluctuation was

very perceptible. On the left side only was a resonance elicited by percussion. On laying open the abdomen by a long incision from the sternum downwards, the parietes were observed to be much attenuated and of a very pale colour. An enormous tumor was now discovered filling up the whole cavity. The colour of the mass and its partially lobed form made it resemble somewhat a monstrously enlarged liver. It adhered very intimately to the whole right side of the abdomen.

The tumour consisted of two masses, the upper one of which was of the largest dimensions. The lower one was denser and thicker; and in the hollow or groove between the two lay the mesenteric vessels. Both masses were attacked in front of the vertebral column extending from the pillars of the diaphragm down to the scrotum. The stomach, spleen, and the small intestines, had been pushed upwards and backwards.

The lower mass of the tumor occupied the greater part of the pelvic cavity resting upon, but not adhering to, the vena cava, the iliac veins, and the sigmoid flexure of the colon. It measured four feet in circumference; its long diameter being nearly fifteen inches, and its shorter one more than seven inches. No trace of the omentum was to be discovered.

The consistence of the enormous tumor, of which we have attempted to give a description, was firm, and rather elastic and yielding. It communicated to the fingers the sensation as if hydatids were contained within. On cutting however into its substance, it was found to be homogeneous throughout, and of a uniform fibrous consistence. The pelvic portion had assumed in part all the firmness of cartilage.—*La Presse Medicale*.

ASCITES CURED WITH THE INUNCTION OF VERATRIA OINTMENT.

The following case is taken from the report of St. Catharine Hospital at Stuttgart, and is published in one of the late numbers of the *Medicinisches Correspondenz-blatt*.

A young man, 17 years of age, was admitted into the hospital, with all the symptoms of a gastric fever, and with well marked ascites. The patient, whose aspect indicated a scrofulous constitution, had been recently exposed to frequent chills. The bowels were much confined, and the secretion of urine had for a length of time been very scanty.

A purgative, consisting of acetate of potass and extract of dogstooth, did not affect the symptoms. Small doses of extract of hemlock, of squills, and of cherry-laurel water, in conjunction with an infusion of junipers for the ordinary beverage, were administered for several weeks, but without any decided effect on the dropsical effusion. An ointment, consisting of four grains of veratrine and an ounce of lard, was then employed to an outward application. A portion, of the size of a nut, was ordered to be rubbed in upon the abdomen twice in the course of the day. After two days' use, the urinary secretion was found to be very considerably increased. The strength of the ointment was gradually increased, until it caused great irritation and convulsive movements of the muscles. Its diuretic effects continued very steadily; and at length the patient was pronounced to be quite cured.

It is to be observed that, notwithstanding the apparent success of the veratria ointment in the preceding case, it often fails entirely in dropsical cases. Two examples are related in the same report, from which we have extracted the previous details, where it was not of the slightest advantage.

ABSTRACT OF THE REPORT OF M. DESPORTES ON THE SERVICE OF THE SALPETRIERE AND BICETRE LUNATIC HOSPITALS.

The work of M. Desportes consists of two sections. The first exhibits a series of eighteen statistical tables, giving an account of the number of patients for each year, the name or character of each form of the disease, the occupation of the patient, the causes of the insanity, the relapses, the length of

time each patient was under treatment, and lastly, the issue of each case. The second comprises the practical and philosophical deductions which may be drawn from these tables.

These tables are arranged in three classes. In the first class are grouped the cases, which were observed during the years 1825, 6, and 7; in the second, those observed in the years 1828, 9, and 30, and in the last, those observed in the three following years, 1831-2-3.

Number of Patients admitted, discharged, and cured, during Nine Years from 1825 to 1833 inclusive.

Admitted.	8,272 lunatics.
Discharged cured . . .	2,763
not cured.	1,863
Dead	3,854.

The relative mortality to the number of cases admitted may appear, at first sight, to be extremely high; but we are to remember, "que la mort frappe surtout les incurables."

The number of admissions during the last triennial period was greater, than in either of the two preceding periods. The cause of this increase is most probably to be found in the agitation of the public mind induced by the revolution of July, 1831. In the following year too, the epoch of the cholera, there were more admissions than usual. A similar increase in admissions was noticed also in private lunatic establishments, during these two years. In an article published by Dr. Belhomme in the bulletins of the Medico-practical Society, he has particularly alluded to the influence of stirring political and public events on the development of insanity. "It seems to me," says he, "well established, that not only great political events exert an influence on the development of insanity, but also that the number of insane persons must necessarily have increased in France during the last forty years, in consequence of the violent commotions, which have succeeded each other during that period. That such has been the case, is clearly proved by the uniform increase of admissions into our great lunatic establishments after any violent excitement of the public mind.

During the nine years, to which the report of M. Desportes alludes, the number of admissions of female patients has been more numerous by about one-fourth.

M. Desportes observes that, by a singular coincidence, the number of insane patients under treatment and in a state of convalescence, which amounted to 318 on the 31st December, 1827, and to 3,127 on the 31st December, 1830, was exactly 318 on the 31st December, 1833.

In what months of the year have the admissions been most numerous? The following is a table in M. Desportes' report. Of 8,272 admissions during nine years, there were—

281 during June.
268 . . . July.
255 . . . May.
237 . . . April.

From this table it would appear that the month of June, when the hot season commences, is the period of the aggravation of insanity.

Now as to the influence of the weather on the curability of the patients, we have the following data:—

Of the 8,272 patients, the months in which there were the greatest number of cures, were—

1st Series.

In March . . .	36.
October . . .	44.
June . . .	43.
August . . .	42.
May . . .	42.

2d Series.

In October . . .	40.
July . . .	44.
August . . .	47.
June . . .	48.

In other months the cures were less numerous.

3d Series.

In September . .	76.
February . .	59.
May . . .	56.
July . . .	58.
August . . .	60.
October . . .	67.

We see by these tables, that it is at the trimestral epochs, which are marked

by a change of season, that the cures have been most numerous; and especially in the month of October, in which alone there were 151 cures.

M. Desportes furnishes us with the following average relative to the cures effected.

First Series.

Of 2956 there were 881 cured—1 in 335

Second Series.

Of 2869 there were 884 cured—1 in 324

Third Series.

Of 3354 there were 962 cured—1 in 361

We are next informed that the female patients were kept longer in the hospitals than the males. The reason of this is, that the former may be more effectually and permanently cured. The men, having more means of subsistence, are of themselves generally more anxious to be discharged, when they once begin to feel themselves better. But it may be with propriety argued against this plan, that the danger of relapse must be the greater; and such, in truth, we find it to be the case.

Relapses are more frequent among the men than among the women. The following are the results of M. Desportes' report. In the first series, mentioned above, there was one relapse in every 12 men; whereas among the women there was one in every 16. In the second series, the proportion was one in every 10 among the men; and one in every 13 among the women. In the third series, the proportion was one in every 19 among the former; and among the latter one in every 22. He attributes this difference, in a certain degree at least, to the greater irregularity of life among the men, than among the women.

M. Belhomme is not quite inclined to agree with M. Desportes in this particular. He attempts to explain the difference by alluding to the difference in the cause and in the character of insanity among the two sexes. Among men, he says, it is most frequently idiopathic; whereas among the women, it is much more often merely sympathetic. Now the former, or the idiopathic insanity, is very frequently associated with lesions of the encephalon; while in the sympathetic form of the

disease, there is generally no organic mischief, but only a morbidly excited state of the nervous system.

He adduces, as a proof of the correctness of these statements, that paralysis is much more frequent among insane male than female patients. This reasoning is certainly very plausible, and confirms, to a certain extent, the opinion of M. Belhomme, that idiopathic insanity affects men rather than women. We are thus furnished with a satisfactory explanation of the greater frequency of relapses among the male patients.

The following results, as to the mortality of the insane patients, are afforded us by M. Desportes' memoir. In the first series, there was one death in every six of the men, and one in every ten of the women. In the second and third series, the advantage is still more decided in favour of the women. The medium age of the deceased was, in the first series, between 49 and 50 among the men, and between 50 and 51 among the women; in the second series, the medium age among the men was 48 years, and among the women between 53 and 54; and in the third series, it was between 47 and 48 among the former, and between 50 and 51 among the latter.

As to the months in which the mortality chiefly occurred, January seems to have been the most fatal.

The observation of other physicians agrees with this statement. The severe cold of Winter appears to be very hurtful to the insane.

M. Desportes next proceeds to give an analysis of the occupations of the insane, their ages, and of the diseases from which the patients usually died.

The following table presents us with a view of the ages of the 8272 patients admitted during nine years.

From 10 to 19 years of age	626
— 20 to 29	1568
— 30 to 39	2024
— 40 to 49	1683
— 50 to 59	1051
— 60 to 69	783
— 70 to 79	494
— 80 to 90	8
— 90 to 99	2
Age unknown	15

The greatest number, therefore, was from 30 to 39 years of age.

The professions or occupations also seem to have a very marked influence on the development of insanity.

It has been remarked by many observers, that there are always a number of insane sent from the army to the public lunatic hospitals. All persons too who have been subjected to strong mental or moral excitement, as love, ambition or interest; merchants who have suffered reverses of fortune, or persons who have left off business, without betaking themselves to some active employment, are very frequently the victims of derangement.

The following table of the occupations of the patients, whom M. Desportes examined, may be interesting.

Among the male patients there were

445 day-labourers,
124 tailors,
161 shoe-makers,
101 cabinet-makers,
81 masons,
97 clerks,
62 domestic servants,
17 washermen,
1 embroiderer,
23 cooks,
1082 occupations unknown.

Among the women, there were—

924 semstresses,
397 domestic servants,
503 day-work-women,
188 washerwomen,
133 embroiderers,
88 cooks,
50 shoemakers,
339 occupations unknown.

The great frequency of insanity among females, who have been milliners and semstresses, is perhaps not to be wondered at, when we remember that so many of these poor creatures are, from their personal charms and other circumstances, more exposed than others of their sex to seduction and ultimately to destitution and poverty. The grief which follows, their anxiety and distress if they become mothers, the anguish of disappointment, are unquestionably the causes of the frequent occurrence of insanity among them.

M. Desportes remarks that insanity

is more frequent among female, than among male *celibataires*. The following statement is very interesting, as it shews that the unmarried life is decidedly more exposed to the misery of mental derangement, than the "dual state," as the poet Cowper terms matrimony.

The *celibataires* of the two sexes were in the proportion of 47·16 in every hundred cases admitted into the hospitals; married persons in the proportion only of 3·55 in the 100; widowers and widows in the proportion of 13·27 in the 100; and those who had been divorced, or whose civil condition was unknown, in the proportion of 4·7.

The most frequent and powerful predisposing and exciting causes of insanity, among the patients examined by M. Desportes, will be seen by the following table:—

Predisposing Causes.

Hereditary predisposition in 736 cases.
Defect of intellectual development in 642
Premature or natural old age 753

Physical Causes.

Cerebral congestions or hæmorrhages, inducing paralysis or delirium 656
Epilepsy and convulsions . 492
Efforts of menstruation, critical period of life . . . 383
Consequences of parturition 218
Pregnancy 48
Hysteria 100
Abuse of spirituous liquors 414
Poverty and destitution . 109
Syphilitic disease 51
Misconduct and debauchery 216

Moral Causes.

Domestic distress 392
Reverses of fortune . . . 150
Ambition 139
Disappointed love . . . 114
Fright 124
Unknown causes 1576

The influence of hereditary predisposition is strongly shewn by the preceding table. The number of patients, so situated, amounts to an eleventh of the whole number of admissions, viz.

8272. The author very properly alludes to the great impropriety of marriages in certain families; but it is very doubtful whether most people will be willing to adopt his advice, "*les medecins seuls peuvent etre consultés avec avantage dans ces sortes de cas.*"

Dr. Belhomme directs the attention of his readers particularly to the marked influence of the uterine functions, as one of the most frequent causes of insanity among females. The above table shews that not fewer than 982 cases are attributable either to the efforts of menstruation, the suppression of the catamenia, their cessation, or to pregnancy, the sequelæ of parturition, suckling, &c., or, lastly, to hysteria and other nervous affections, which are, more or less, obviously connected with the state of the uterus.

We shall now proceed to state the result of M. Desportes' inquiries as to the most frequent causes of death among insane patients.

1st Series, 1825-6-7, out of 1246 deaths, 253 were caused by organic disease of the encephalon,

395 by organic disease of the thoracic viscera,

445 by organic disease of the abdominal viscera,

108 by cachectic diseases.

2d Series, 1828-9-30, out of 1200 deaths, 237 were caused by diseases of the encephalon,

390 by diseases of the thoracic viscera,

393 by diseases of the abdominal viscera,

119 by cachectic diseases.

3d Series, 1831-2-3, out of 1408 deaths, 270 were caused by diseases of the encephalon.

468 by diseases of the thoracic viscera,

485 by diseases of the abdominal viscera,

158 by cachectic diseases.

Hence there was a total of 760 deaths from encephalic disease, 1258 from thoracic, 1322 from abdominal, and 385 from cachectic disease.

It is, however, more than probable that, in very many of the cases arranged under the thoracic and abdominal sec-

tions, there was co-existent cerebral disease—the cause of the insanity, although not of the fatal termination. The influence, which disease of other cavities has frequently on the state of the cerebral functions, is strikingly exemplified in many cases of insanity. M. Belhomme alludes to several cases in illustration of this remark, and more particularly to that of a phthisical patient, in whom the paroxysms of madness regularly alternated with the free flow of the purulent secretion, or its suppression.

COMPARATIVE VIEW OF THE STATISTICAL REPORTS FROM THE HOSPICE AT CHARENTON, THE LUNATIC ASYLUM AT ROUEN, AND THE TABLES FURNISHED BY M. DESPORTES FROM THE METROPOLITAN HOSPITALS.

The report from the establishment at Charenton embraces a period of eight years; that from Rouen of ten years; and that of M. Desportes, as already stated, of nine years.

In all the three establishments the admissions were more numerous during the hot than during the cold seasons. The number of female lunatics exceeds that of the male at the Salpêtrière; but is inferior at the Charenton and Rouen establishments.

In all, the age of the greatest number is from 30 to 40 years. At Charenton the number of the "*modistes*" and "*couturières*" is very large, as already mentioned to be the case at the Salpêtrière.

In the Charenton, and also in the Rouen establishments, the number of the "*femmes celibataires*" is very large. At the former, the "*hommes celibataires*" are also very numerous. Perhaps the reason of this is, that a great many soldiers are admitted.

As to the causes of mental derangement, M. Esquirol, the physician of Charenton, states that, in one-fourth of the cases there, hereditary predisposition can be clearly traced.

In M. Desportes' report, the influence of this state is not reckoned so high.

In closing his resumé, M. Belhomme alludes to the growing frequency of insanity in France, if we may judge from the increase of admissions into the public lunatic establishments. Perhaps this is owing, partly at least, to the circumstance of families concealing the infirmity in any of their members less than formerly ; but it cannot be doubted that there has been a positive increase in the malady during the last half century. We need not repeat, that the frequent political changes and public excitements have contributed not a little to this melancholy fact. It is gratifying, however, to be assured at the same time that, if the malady is increasing, the success in the treatment has of late years been decidedly greater than in former years. The improvements which have been effected in the various establishments throughout the kingdom, and the greater attention in respect both of dietetic and of therapeutic measures, have done much for this most desirable end. One of the most valuable of all the improvements is decidedly the practice of employing the insane in some regular occupation, whenever they are capable of it.

M. Belhomme says : "A very efficacious means to effect an improvement in the mental state of the insane, is to engage them in some regular occupation. Dr. Helis, physician to the asylum at Danwell, which contains between 400 and 500 inmates, has for a number of years employed his patients in the duties of the kitchen, wash-house, garden, &c. Many of the outworks of the establishments have been built by them, under the superintendence of a master."

M. Desportes has followed this example with great benefit in the Parisian hospices. By the aid of the patients alone, he has had large workshops erected, and there the inmates are constantly occupied in some light and useful occupation.—*Journal des Connaissances Médicales*.

CASE OF CONFIRMED INSANITY CURED BY A SUDDEN FRIGHT.

A man, between 30 and 40 years of age, had been from the year 1827 to 1831 affected with an extreme degree of insanity, amounting almost to idiocy, and alternating with periodic fits of raving madness. His condition bordered on bestiality, and none dared to approach him in his maniacal paroxysms. His case was deemed quite hopeless ; and for the following two years he vegetated, so to speak, in the public lunatic house of the place. A fire having accidentally broke out near his cell, his mental powers, which had so long slumbered, suddenly were aroused ; and Dr. Ollenroth, upon visiting him a few days afterwards, found him perfectly intelligent, and assiduously occupied with some domestic arrangements. He had no recollection of his former condition. All that he remembered was simply that, on the approach of the flames, he felt himself seized with an indescribable sense of anxiety, that he sprung up from his bed, and that he suddenly regained his intelligence.—*Mediz. Zeitung für Heilk. in Preussen*.

CASES OF HÆMORRHAGIC DIATHESIS, BY PROFESSOR KUHLE, OF LEIPSIK.

CASE 1. *Hæmorrhage from a Wound.*

A young man, of a pale, scrofulous, and weak temperament, wounded the skin of his thumb. The hæmorrhage continued for several days, and was so obstinate as to occasion some degree of anxiety for the patient's life. In the following Spring the skin of his forehead was cut by a tile which fell upon it. The greatest difficulty was again experienced in stopping the bleeding. Every sort of styptic, not excepting the actual cautery, was tried ; but still, for several days, the wound began to bleed whenever the dressings were removed. A second and third application of the cautery were necessary at intervals of a few days, the one from the other. At length, the patient's strength being re-

duced to the utmost, the only security was found to be in keeping up continued pressure with the fingers. The assistants in the hospital were obliged to relieve each other at this duty for several days in succession.

CASE 2. Spontaneous Hemorrhage from the Surface of the Legs.

A youth, 16 years of age, and apparently healthy in constitution, was surprised one day at finding his left stocking soaked with blood, although he had received no cut or bruise of the leg. On taking off his stocking, he observed that the blood oozed out in drops from the skin of the knee, although there was no wound. This oozing continued, without any pain, for three days, and then ceased spontaneously. But in seven weeks from this time it returned, and Professor Kuhl examined the state of the patient with minute attention. He did not exhibit any signs of scurvy and there was nothing which indicated a dissolved state of the blood. The blood which oozed from the skin of the knee was of a bright red colour, and therefore of arterial origin. Heat increased the flow of it, and cold diminished it. Various external and internal styptics were tried, but without decided effect. Dr. Kuhl lost sight of him soon afterwards.

The Professor alludes briefly to a third case, that of a young lady, who was annoyed for a length of time with an oozing of blood from the right *caruncula lachrymalis*; and also to that of a child, who was brought repeatedly to death's door by spontaneous epistaxis. Sometimes upwards of a pound of blood was lost in the course of a day.—*Beitrag zur Pract. Heilkunde.*

TWO CASES IN WHICH IT IS ALLEGED
THAT A LIZARD WAS VOMITED FROM
THE INTESTINES!!

Case 1. A woman had suffered for nearly 11 years from attacks of sharp pain in the left side of the epigastric region, of vomiting, and most distressing palpitations of the heart. The pain

moved afterwards to the right side of the abdomen, and was felt lower down than formerly. The patient used always to say, that she was certain that some live body was moving up and down her bowels.

During the first few years of her illness, the paroxysms of abdominal pain returned usually every three or four months, and lasted for eight or nine days at a time. Subsequently they became more frequent. Upon first awaking in the morning, she very usually felt sick and unwell; but these symptoms passed away after breakfast. The bowels were generally much constipated. Seven years ago she became pregnant, and although she suffered excessively from the attacks of pain during her pregnancy, she at length gave birth to a perfectly healthy child. She had tried a variety of remedies, but had not received decided benefit from any mode of treatment. On the 1st of April, 1832, she eat for supper a large quantity of acid salad (an article which almost invariably aggravated her sufferings), well peppered with strong white-pepper,

On the following two nights, she experienced dreadful paroxysms of pain through the abdomen, and on the third morning, upon springing out of bed, she felt as if something living was creeping from the anus. She took hold of it, and drew it out, and, to her surprise, it was a common grey lizard (*lacerta agilis*)!! It was three inches long, and is now preserved by Dr. Bernstein, the narrator of the case. From this period the woman suffered no more from her wonted attacks of pain.

Case 2. A young woman had been distressed, for about two years, with periodic attacks of a most annoying feeling in the region of the stomach, as if something was moving about there; and this distress was accompanied with occasional cramp of the stomach, with nausea, and profuse flow of the saliva. The woman repeatedly described her sufferings, as if some living body was attempting to rise up her throat, and then fell down again into the stomach,

The case was regarded as one of hysteria, and treated accordingly. She then took some emetic medicines, and during one paroxysm of vomiting, she brought up a living lizard!! From this moment all her distress ceased.

The narrator of the case then proceeds to offer some remarks as to the probable mode in which the lizard came to be in this woman's stomach. He thinks it not at all improbable that it might have been developed there by spontaneous generation!! (We dare say our readers may suppose that this is a quiz on our part. Far from it; we are merely transcribing what is very coolly and seriously put down in the original report.—*Rev.*)

He is of opinion that such cases as the preceding, must be more frequent in young unmarried females than in any others; because," says he, "the formative effort, being not engaged in normal developments, tries to compensate itself by the production of anomalous structures!!" (This out-Herods all the *formative efforts* of transcendentalism, that we have ever heard of.)—*REV.—Wochenschrift für die gesammte Heilkunde.*

EMPLOYMENT OF A STREAM OF COLD WATER, IN CASES OF WOUNDS AND OTHER INJURIES.

M. Berard, surgeon to the Salpetriere, has written two lengthened articles in the Archives de Medecine, to prove the great advantages which may be derived in some surgical cases, from keeping up a constant irrigation of cold water on the affected parts. It does not require we think, fifty pages of print to tell what almost every surgeon knows quite well already; but if they do not contain much instructive and useful intelligence, we may be quite assured, before commencing the perusal, that we shall find in such a communication some fantastic freak, or amusing novelty.

What will the English reader think of an "irritation d'eau froide continue" for upwards of a fortnight, day and night, without intermission! but

his surprise at this performance will be converted into mute astonishment, on being told that one of the surgeons of a hospital in Paris has practised, and recommends that a continued stream of cold water be made to pass through the wound of the abdominal parietes into the cavity of the bladder, after the high operation of lithotomy, with the view of preventing the inflammation and the infiltration of the urine, which may supervene.

After the extraction of the stone, two sounds were in one case introduced through the wound into the bladder; to the ends of these sounds were affixed flexible incompressible tubes, one of which, directed from below upwards was plunged in a basin full of water, suspended above the bed-clothes, while the open extremity of the other hung over the edge of the bed, a basin being placed on the floor to receive the fluid which dribbled from the tube. These tubes acted as two syphons, one to introduce water into the bladder, and the other to withdraw it, as well as the secreted urine, from it. By this contrivance, the infiltration of the urine "devenait impossible," and the bladder was subjected to an "abaissement de temperature continue!" The irrigation succeeded most admirably, the water dripping from the lower syphon as colourless as that which flowed in by the upper one. The patient died 36 hours after the operation; but, in spite of this untoward accident, the author is quite satisfied with his experiment, because, says he, "on verra par le resultat de l'autopsie que l'eau froide avait parfaitement rempli mon attente."

Such practice requires no comment.

As it is not unfrequent that "extremes meet" in medicine, and that we hear of diseases being cured by not only the most different, but even by the most opposite and antipodal remedies, it will not perhaps be thought wonderful, that while M. Berard in lauding the good effects of cold water in the treatment of wounds, another surgeon should take the other side of the question, and descant upon the virtues of heat in the same set of cases.

Dr. Guyot has a long paper inserted

in the July number of the Archives, "on the therapeutic influence of atmospheric heat." He first alludes to the recorded opinions of some surgical authors. The only one, which we shall notice, is that of Baron Larrey, who has devoted a chapter in the "*Campagne d'Égypte*," to illustrate the "influence salutaire du climat d'Égypte sur les plaies." The Baron mentions as a general remark, that fresh wounds healed with astonishing promptitude in that country, and that the success of severe operations was almost uniform.* In the "*Campagne d'Allemagne*," he has spoken of the injurious effects of the cold weather on the results of similar cases.

Dr Guyot derived the hint from these observations of M. Larrey, to institute a suite of experiments for the purpose of investigating the effects of an elevated dry heat on the healing of wounds and sores.

He commenced his researches on rabbits. The apparatus which he used was sufficiently simple; being nothing more than a box heated with atmospheric air by means of a tube, the lower funnel end of which was placed over the flame of a lamp. In some of the experiments, the body only of the rabbits was exposed to the heated air, the heads being protruded out through holes in the sides of the box, so that they thus continued to breathe the air of the room. In other experiments the animals were altogether confined in closed boxes; while in a third set, the poor devils were fastened in a row to a bench, which was perforated in the intervals between each pair, to permit the tube which conveyed the heated air from beneath to pass through. A variety of cutting and mutilating operations were performed.—Deep incisions were made in the hips; portions of the ribs were cut out, limbs were amputated, injections of cold water sometimes into the head, at other times into the belly, were performed, and so

forth. The poor animals, we are informed, struggled vehemently at first, but after a short time, "*leur parti était pris*," and they submitted most resignedly to the sufferings and restraints imposed on them: they gradually began to know us (the experimenters); and our presence, far from disquieting them, seemed "*piquer vivement leur curiosité*!!" The degree of heat, which the rabbits could bear without inconvenience, depended almost altogether on the circumstance, whether the head was immersed in the heated air or not. A temperature of 60° Cent. continued for about two hours, when the animal required it at the same time, was sufficient to exhaust the energies of life; but when the head was kept out, the heat might be raised to 75°, and this continued for several days and even weeks continuously, without any deleterious effects. The results of some of the experiments must now be noticed. In two cases, in which simple incisions had been made through the integuments, and the animals were exposed to air heated to 60° C., union by the first intention was, we are told, effected in from four to six hours! In other two cases, although similarly treated, the wounds were not cicatrised until the third day; but during the whole time, there was no appearance of any suppuration. The results of these experiments may be contrasted with those of other experiments, in which the animals after the operations were confined in a temperature of only 14°C. Under these circumstances it was usually from the tenth to the fifteenth day, until cicatrization was complete.

When the wound was accompanied with loss of substance, it was frequently observed that, under exposure to an elevated dry heat, it exsuded during the first twenty-four hours a small quantity of a viscous serosity; that on the second day its surface was covered with a reddish coloured varnish: that on the third a deposit of "*une matiere blanche solide*" (coagulable lymph!) was observed at various points, and that this gradually extended over the whole surface, the edges of the wound contracting at the same time, until perfect cicatri-

* The results of M. Clot-bey's surgical practice in the Hospital of Cairo and Abouzabel confirm the accuracy of Larrey's Observations.

zation was effected, at an interval from the operation of from ten to twelve days.

In most of the cases so treated, it was particularly observed that the wounds were free from inflammation, and that the suppuration was greatly less profuse, than it usually is under reduced temperatures.

All the amputations appear to have proved fatal; and, as to the results of other operations, we may avail ourselves of the author's own avowal; "*dans un grand nombre de cas, nous n'avons pu saisir de difference dans l'action des instrumens chauds et froids.*"—We pass now to a brief summary of the results of Dr. Guyot's trials of his remedy on the human subject.

M. Breschet, surgeon of the large hospital, the Hôtel Dieu at Paris, afforded him the requisite opportunity. The apparatus used was a very simple one, and quite similar to that employed at vapour bath establishments, to expose only one part of the body to the operation of steam, or of heated air.

The first case was that of a young postillion, who had laboured for nearly four years under an ulcer on the upper and inner part of the leg, the result of an old compound fracture. Six months after the receipt of the accident a considerable portion of the tibia had been extracted, and, ever since that date, the wound had remained open. The poor fellow had come to Paris to submit to the amputation of his limb. M. Breschet, whose patient he was, placed him under the care of Dr. Guyot. The ulcer was about three inches in length, and two broad, and there was another sore of smaller dimensions. The purulent discharge was scanty. After two hours application of air heated to 45°C. the edges of the wound exhibited the appearance of having been dried: after a five hours' application, the sores were found to be covered with a thin crust, under which a quantity of serosity had been deposited.

On the morrow, the two sores were covered with a dry crust, without any fluid underneath. The general health of the patient at this time began to be much disturbed; and this he attributed

to the effects of the heat. It was discontinued, and forthwith the purulent discharge increased in quantity. The apparatus had been applied for only thirty-six hours, and already it had changed "*completement l'état de la plaie, et la marche de son travail.*"

The patient subsequently underwent amputation, and died soon after the operation.

The second case occurred in an old man, on whose left inner ankle there had been a varicose ulcer during the long space of twenty-five years. Like most ulcers of this sort it occasionally almost quite healed up, and then it broke out again. It had been open at the date of this report for upwards of eight months. The edges were swollen and exceedingly painful; the discharge was sanious and of a greyish colour.

The limb having been exposed for several hours to an atmosphere heated to 45°C., the inflammatory irritation was greatly reduced, and the wound had exuded a quantity of serosity. On the following day, the ulcer was covered with a crust, under which was a thick inodorous pus. For ten days the air-bath was continued without intermission; only at times the lamps had gone out, and the temperature of the bath had thereby become reduced. At these times, the patient had uniformly complained of the pain having returned in the sore. With occasional interruptions, the treatment was persevered in from the 27th of November, the first day of the application of the apparatus, to the 3rd of the following January, by which time the sore was completely cicatrised. A month after the patient's dismissal from the hospital, the limb remained quite well. Two other cases are recorded by Dr. Guyot, in illustration of the good effects of the continued application of heated air to chronic ulcers.

The memoir, from which the preceding extracts have been taken, was laid before the Academy of Sciences, and M. Roux was appointed to report on the practice recommended. He entrusted some of his patients in the La Charité to M. Guyot.

A chronic ulcer on the ankle of an

old man was cured in the course of 14 days; a white swelling of the knee-joint was, we are told, greatly relieved; and an old fistulous sore on the heel speedily healed up, by the foot being kept constantly in an atmosphere heated to 40° C. But these data are quite insufficient to warrant any deductions favourable to M. Guyot's proposal; and we ask him why he has not published M. Roux's report. The verdict of such a man as M. Roux, one of the first surgeons in Paris, must have deserved recording; and if it had been favourable, we doubt not it would not have been kept back.

The heated air-bath is no doubt a valuable remedy in some diseases. Certain ulcers may possibly be benefited by it; affections of the joints are certainly much relieved by its application; so are some local cutaneous eruptions, rheumatic and neuralgic pains, &c.—*Archives Generales*

REDUCTION OF AN OLD DISLOCATION OF THE SHOULDER—DEATH THE SAME DAY—APPEARANCES OF THE JOINT ON DISSECTION—REMARKS ON M. LISFRANC'S CHARACTER AS A SURGEON.

The patient was a robust plethoric man 40 years of age. The dislocation, upwards and inwards, had lasted for four months. He was bled previous to the attempts at reduction, and this was effected without the aid of pulleys by several assistants, under the direction of M. Lisfranc, who while the extension was making, lifted up the head of the bone by means of a towel passed under the patient's arm and over his own neck. Three hours after reduction, the patient suddenly died from an apoplectic attack.

On the dissection of the joint, an ecchymosis was found to extend from the lower edge of the pectoralis major muscle to the middle of the neck, and from the sternal extremity of the clavicle to the subscapular and infraspinal fossæ. The effused blood permeated all the tissues from the skin to the sub-

jacent pleura. The subclavian and axillary artery and vein, and the plexus of nerves, were not injured. When the deltoid and pectoralis muscles were lifted up, the head of the bone was found under the acromio-coracoid arch. It evidently was more prominent than in the natural state of the parts, and this projection seemed to be caused by something interposed between the round head of the humerus and the glenoid cavity. It was enveloped in a dense fibrous tissue, which had all the appearance of the ordinary capsular ligament.

On continuing the dissection, it was evident that this enveloping tissue was a new formation, and that the puckered and altered remains of the original capsule were interposed between the head of the bone and the glenoid cavity of the scapula.

The heart was found hypertrophied, and the vessels of the brain and of its membranes excessively gorged with blood, although no traces of sanguineous effusion were discovered.—*La Lanquette Française*.

We do not charge M. Lisfranc with any blame for the unfortunate issue of the preceding case—far from it. The same accident might have occurred in the practice of a much more cautious surgeon than M. Lisfranc is. But there has been an accusation of wilful misrepresentation of truth lately brought against him by one of his pupils; and this we feel ourselves bound to notice. In the course of last year, M. Lisfranc communicated to the Academy of Medicine a list of 84 cases, in which he alleged that he had successfully amputated the cervix uteri. This indeed, is a most startling and most unexpected announcement; and one which, even in the present day of medical wonders makes a large demand upon our credulity. But what will our readers say, when they are informed that Dr. Pauly, who tells us that he was "chargé de rechercher les materiaux" of the memoir presented by his former master to the Academy, has assured the public in his recent work, "*Maladies de l'Uterus*," that the statements of M. Lisfranc are

not true; that, of all surgical operations, the amputation of the neck of the uterus is one of the most murderous (*meurtrières*); and that every case, in which it was performed, "*lui offrait une victime*," the poor patients, when dismissed from the hospital, being told by M. Lisfranc; "*Allez, vous êtes guéries; vos douleurs se désespèrent à la longue*."

We admit that the prevailing tone of Dr. Pauly's work indicates a personal hostility to M. Lisfranc; and we are bound to await the latter's reply. But we must confess that the perusal of the lectures "*du grand chirurgien de l'Hôpital de la Pitié*" has not given us a favourable impression of his practical talents. He is rash—and rashness is one of the very worst attributes of a medical man.

In a late number of the *Gazette Médicale*, we read the history of a case, where a woman died of violent metritis, which supervened on the very same day on which M. Lisfranc had made a tedious and painful examination of the uterus for suspected polypus.

His vaunted discovery of the great utility of muriates of lime and barytes, in white swellings of the joints, is not likely to obtain much credit among British surgeons.—*Rev.*

CURIOUS CASE OF SIMULTANEOUS DISLOCATION OF BOTH THIGHS.

A sailor was sitting astride a plank, when a wave suddenly forced him up against a cross beam, which struck his back violently, while the plank was still between his legs. The poor fellow was lying on his back, when Dr. Sinogowitz was summoned to his assistance. Both limbs were quite motionless, and evidently much deformed from their natural figure. The thighs were separated the one from the other, and could not be approximated; the trochanters were much lower and less prominent than usual, and the muscles of the hips over them were in a state of extreme tension. The body was bent immovably forwards and downwards upon the thighs; the knees were moderately flexed, and the

toes were not turned either inwards or outwards. The diagnosis, therefore, was that the heads of both of the thigh bones were dislocated downwards and inwards. The reduction was effected in the following manner. The pelvis being secured by two assistants, the surgeon took his place between the limbs of the patient, and having put a towel round the right thigh above the knee, he passed the noose of it over his own neck. Extension was then made by means of a towel made fast above the ankle, and inclined a little to the left side, and while this was steadily continued, Dr. S. lifted the head of the bone, and directed it upwards and somewhat outwards, by raising and stretching out his head with all his power. It slipped into the socket without any noise. The left limb was then reduced in nearly a similar manner. The mobility of the limbs was almost immediately restored, at least in the horizontal position; but several months elapsed before the patient could walk with any degree of ease. The tediousness of the recovery was owing in a very great measure to the severe injury of the lumbar vertebræ, which he sustained at the time of the accident. For three weeks, the sphincters of the bladder and rectum were quite paralysed.—*Preussische Medicin. Zeitung*

VARIETY OF CLUB FOOT TREATED BY THE DIVISION OF THE TENDO- ACHILLIS.

A man 46 years of age, had been affected from his childhood with that variety of club-foot which has been denominated "*horse-foot*," (*pied equin*), and which consists in the person walking on the point of the foot.

The infirmity was not congenital, but had been the result of a wound of the heel from the bite of a dog, when the patient was six years of age. From inattention the patient had ever since that time rested on the point of the affected foot in walking, and the consequence of this proved to be a permanent and unyielding extension, the

heel being drawn up by the contraction of the tendo-achillis. The ankle-joint was quite sound; the calf of the leg was somewhat smaller than that of the opposite limb.

The remarkable success obtained by M. Stromeyer, of Hanover, and by M. Duval, at Paris, from dividing the tendo-Achillis in such cases, induced the attendant surgeon to propose the operation in the present instance. M. Roux was consulted, and approved of the practice suggested. A long straight bistoury was passed behind the tendon, at about six finger-breadths above the external malleolus, in a direction parallel to that of the tendon. The blade of the instrument shaved, as it were, the posterior face of the fibrous bundle; but its point was not made to penetrate through the skin of the opposite (the inner) side. This being removed, a probe-pointed bistoury, with a very convex blade, was introduced along the wound, so as to divide across all the fibres of the tendo-achillis. The foot could then be brought to its proper position, the heel being drawn down into a line with the toes; but it was thought advisable to permit the wound to heal, and a deposition of "tissue inodulaire" to take place between the divided ends of the tendon, before the permanent extension was resorted to. The instrument employed was somewhat like the boot of J. L. Petit, only that it acted in an opposite direction—of keeping the foot constantly bent upon the leg. It consisted of a padded and laced shoe, to which were attached two lateral splints or rods, which extended up to the knee, where they were secured in their places by leather straps. A leather strap extended from the point of the shoe to a circular piece of metal, which passed round, and was made fast to the splints about the middle of the leg. By shortening and lengthening this strap, the toes could be readily elevated or depressed.

We are told that the patient was very restless and intractable. However, by the fifteenth day after the operation (the date of the report), the foot had resumed "*une grande partie de ses*

fonctions normales."—*Gazette des Hôpitaux.*

The practice of reporting cases, and this too as being quite successful, before the result is known, is very common among our French brethren. On the present occasion, the reporter "*engage les chirurgiens à imiter la pratique qu'il vient de decrire,*" although, in the paragraph immediately preceding, he had expressed his doubts as to the ultimate success of the case.

The following abstract of four cases, which we find narrated by Stromeyer himself in a late number of Rust's Magazine, deserves notice. The first was that of a boy, seven years old, who had been born club-footed in both limbs. The right foot was most deformed. The tendo-Achillis was divided. The wound healed speedily by the first intention; but the extension was not commenced till eight days after the operation. Whether the connecting cellular tissue had by this time become too unyielding to permit the foot being brought into a natural position, or there was some other unfavourable condition present, we are not informed; but it appears that the patient was not at all benefited by the operation which had been performed, and the parents would not consent to a second one being performed, as proposed by Stromeyer.

The second case was more successful. The disease was not congenital, but had come on, without any very evident cause, when the boy, now 13 years of age, was in his fourth year. The twisting of the foot was even worse than in the preceding case; and in addition to the general deformity, the big toe was permanently contracted downwards and inwards, in consequence apparently of the flexion of the tendon of the flexor longus pollicis. Dr. Stromeyer was of opinion, that before attempting to remedy the greater evil, it was advisable to rectify the deformity of the toe. The tendon of the flexor longus was therefore divided, and three days afterwards the toe was extended, and kept in that position for a week. The more impor-

tant operation was then performed. Extension was commenced on the fifth day. In the course of ten days, the foot had been brought to an angle of 70° with the leg. Four weeks after the operation, the extension-apparatus was exchanged for the mechanical boot which has been contrived by Stromeyer for the purpose, and the patient allowed to walk out. Half a year afterwards, he could move about with the greatest ease, and with the exception of a slight turning-in of the point, the foot had regained its normal shape and mobility.

In the third case, that of a boy nine years old, the disease was congenital. The toes and the metatarsus of the right foot were bent strongly downwards, so that the dorsum of the foot formed quite a convex line with the leg, and the great toe was drawn upwards in a strange manner towards the foot, so that the only point of support, when the patient stood or walked, was the metatarsal joint of this toe. The tendo-Achillis was divided; and on the fifth day afterwards the extension apparatus was put on.

As the point of the foot was still drawn considerably inwards by the contraction of the tendon of the flexor longus pollicis, this was divided, and extension afterwards kept up.

In about ten weeks after the date of the first operation, the form and mobility of the foot left nothing to wish for; and the boy could move about with the greatest facility.

The fourth case occurred in a youth 19 years of age. The foot was turned inwards, so that the point of support in standing was on the metatarsal bone of the small toe. The result of the operation and of the subsequent treatment was so successful, that the deformity was quite removed (*das entstellende uebel war ganz gehoben.*)

WRY-NECK—SECTION OF THE STERNO-MASTOID MUSCLE.

The patient, 53 years of age, stated that seven years ago, while carrying a heavy weight on his back, he suddenly felt a

sharp pain on one side of the neck, and that this pain lasted for the following fortnight or three weeks; that some time after all uneasiness had ceased, he began to experience, chiefly at night, a stiffness of the neck, and a tendency to incline it to the left side; that on awaking one morning, he found that he had a very painful wry-neck; that this attack however speedily abated; but that ever afterwards the stiffness of the neck and its turning to the left side were much more troublesome than they had been before, and that these symptoms soon increased so much, that he was forced to resort to the expedient of steadying his head, when engaged at his work, by fixing a packthread to his front teeth, and securing it to one of his thighs! This expedient however proved insufficient; and in the course of ten months, the malady had increased so much that he was forced to discontinue altogether his employment as a shoemaker. The left sterno-mastoid had become larger and thicker than its fellow. A variety of remedies, including blisters, acupuncture, electricity, &c. had been tried without avail. M. Amussat therefore advised him to submit to the division of the affected muscle. Pinching up the skin, about an inch above the insertion of the muscle into the extremity of the clavicle, he divided the fold with a sweep of the bistoury; he then severed the muscle, layer of fibre after layer, permitting one to retract before dividing the other, until the entire substance was fairly cut through, with the exception of a few of the outer, or clavicular fibres. A few arteries sprung; but the hæmorrhage from these was easily arrested, by twisting their bleeding extremities. The wound was then dressed with simple cerate. The wryness of the neck was unexpectedly quite as great after, as it had been before, the operation, and continued to be so, for at least three weeks. As the cicatrisation of the wound advanced, the deformity was observed to decrease; and, by the end of the sixth week after the operation, when the wound was quite healed, the normal position of the neck was perfectly recovered.

The most interesting features of the present case are, first, the long continuance of the malady; it had existed for seven years; secondly, the cure obtained without the use of any apparatus, either during or after the section of the muscle; thirdly, the permanence of the cure—it is now upwards of a twelvemonth since the date of the operation; and lastly, the proof which is thus established of the efficacy of the treatment recommended by the older surgeons, and which of late years had fallen into unmerited desuetude.

The point, at which M. Amussat divided the muscle, was that usually indicated in surgical works. M. Malgaigne has, in his *Manuel Operatoire*, suggested that the division should be made higher up, with the view of more effectually avoiding the large bloodvessels in the neighbourhood, and also because the muscle is less bulky. With respect to the former of these motives, it is founded on an anatomical mistake; for M. Amussat shews that the sternomastoid is as close to the bloodvessels higher up in the neck, as it is lower down; and moreover that at this latter point, the omo-hyoideus being interposed between the muscle and the vessels, secures the latter in some degree from the risk of injury.—*Gazette Médicale*.

SUCCESSFUL CASE OF AMPUTATION AT THE HIP-JOINT.

A countrywoman, 25 years of age, was admitted in August 1832, into the surgical hospital at Erlangen. From the age of 12 to 15 years she had had a fistulous abscess, situated immediately above the internal condyle of the left thigh. When this abscess healed, her health was remarkably good, and continued so until about a twelvemonth previous to her admission into the hospital. At that time the whole of the left lower extremity became swollen and painful. Two abscesses formed above the condyles, and, when they broke, discharged a large quantity of pus. The patient became hectic, amputation was proposed, and she at length

submitted to it. The knee was permanently bent; it was much enlarged, and extremely tender on pressure.

On introducing a probe along the fistulæ, the bone was found to be carious and necrosed. The limb was amputated in the upper third of its extent. On sawing through the bone, it was discovered that it was unsound. On detaching the muscles from it for two or three inches, M. Jaeger discovered that the trochanters were affected with caries. He now determined to disarticulate the head of the femur. This was done without much difficulty.—The acetabulum fortunately was quite healthy. Very little blood was lost in this second operation. The quantity of soft parts was much greater than was necessary to form a good stump; but M. Jaeger was unwilling to subject his patient to more suffering, as already she was in a weak and fainting state. He therefore united the wound with a few stitches, leaving its lower angle free, to permit the issue of any discharges. The stump, enveloped in linen wet with cold lotion, was laid upon a cushion of bran, and no bandages were applied.

On the third day after the operation, three of the stitches and also the strips of plaster were removed, in consequence of the lips of the wound having become somewhat swollen and painful, and dressings of simple cerate were applied and retained in their place by a few turns of a roller. Light cordials and nourishing broth were allowed, in small quantities at a time, as the vital powers were rather low and apt to flag. The upper angle of the wound having assumed somewhat of a livid hue, it was frequently bathed with aromatic fomentations, sharpened a little with pyroligneous acid. Under the application of these continued for ten or twelve days this disagreeable appearance gradually subsided, and at the same time the character of the purulent discharge was much improved.

By the end of the fourth week the wound was nearly cicatrized; the general health of the patient improved rapidly; and menstruation, which had ceased for upwards of a twelvemonth,

returned on the seventh week after the operation.

The state of the amputated limb was as follows.

The subcutaneous cellular tissue around the knee was thickened to a very considerable extent. All the parts of the joint were carious; the femur was thickened and uneven; and on its posterior surface were three openings through which might be felt the sequestrous bone. On examining the bone, where it was sawn through at first, it was found to be internally carious; and this unhealthy state might be traced upwards as high as the two trochanters. The head and neck of the femur were internally soft, and very vascular.

Professor Jaeger, in discoursing on the preceding case, attributed its successful termination in part to the simple manner in which the bone was disarticulated. He is inclined to recommend surgeons to consider more attentively than they have done hitherto the plan which he followed—viz. to perform the circular operation first, and then to extirpate the head of the bone from its socket.

The state of the patient's health too was favourable to the cure. Naturally of a sound constitution, there was precisely that degree of feebleness, which keeps down inflammatory reaction, and which thus is decidedly favourable to recovery after great surgical operations. The simple mode of dressing the wound at first with cold fomentations, and the abstaining from all compression with bandages and so forth, is strongly recommended.—*Schmidt's Jahrbucher.*

CASE OF AMPUTATION.

1. *Amputation of the Hip-joint.*

A soldier 24 years of age, belonging to the French troops at Algiers, was struck in the left thigh, by a ball which had entered four inches above the knee had shattered the os femoris into several pieces. The fracture was in the lower third of the bone. Amputation was proposed, but not acceded to. Several

fragments of bone were extracted, and the limb being properly secured, the poor fellow was sent down from the Atlas, where the action had taken place to a hospital at the foot of the mountain. M Baudens, the surgeon in chief of the forces, did not again see him for six days. The bandages had by this time become hard and thickened with blood and matter: but as there was not much tumefaction of the limb, they were not removed (was this good surgery?—*Rev.*), and the patient, although suffering from fever and great constitutional irritation was transported in a litter to the General Hospital at Algiers. When the limb was examined, it was found that "les fusées purulentes s'étendent jusqu' au delà du grand trochanter, et par là compression le pus s'échappe à flots!" The poor fellow himself, now wasted with hectic, implored M. B. to amputate if there was any chance of saving his life. Some of the surgeons in consultation dissuaded this step, as the purulent sinus extended above and around the trochanter major, and as moreover the strength of the patient was greatly exhausted by the protracted suffering; but, as the flesh on the fore and inner part of the limb was quite sound, M. Baudens was of opinion that a sufficiently large flap might be obtained from it to cover the joint. The operation was performed on the fourteenth day after the accident. The inguinal artery was compressed over the pelvis, and the limb removed in forty seconds. The flaps formed were rather anterior and posterior than internal and external, as recommended by most surgical authorities. Not more than four or five ounces of blood were lost. The main artery was tied, and two smaller ones were twisted (*tordues*). The patient having fainted, a quarter of an hour was permitted to elapse, and, as no other vessels required securing, the lips of the flaps were then brought together and kept in their places by means of six sutures. Light nourishing broth, and antispasmodic medicines were exhibited at short intervals. For six days the patient remained very low. On the seventh the dressings were removed

for the first time, and the wound was found to have cicatrised along its whole length, except at the two extremities. The ligature (we suppose, the chief one) came away on the fifteenth day. By the end of the fifth week, he was able to move about on crutches, and the wound was quite healed in the course of another week.

2. Amputation at the knee-joint.

A soldier in the skirmish at Tafna, 26th January, 1836, received in his right knee a ball, which, after shattering the patella, lodged in the inner condyle of the os femoris.

M. Baudens having attentively examined the wound, judged that the case was one well suited to the performance of amputation in the joint itself. He commenced the first incision at the crista of the fibia, two inches below the patella ligament, and carried it round on each side to a point, an inch and a half below the centre of the popliteal space. The integuments in front were then carefully dissected upwards as high as the upper edge of the patella; the joint laid completely open all round by dividing the capsular and other ligaments, and, while an assistant compressed the popliteal vessels between his fingers, an ample muscular flap was made from the muscles on the back of the leg to cover the end of the femur. It was found necessary to remove portions of both condyles, as they had been fractured, and the ball still lodged nearly an inch and a half deep in the substance of the bone. Five ligatures were applied, and the wound was secured by three sutures. The healing process was considerably retarded by the oozing of blood from the wound; but eventually a good serviceable stump was obtained.

3. Amputation in the knee-joint. Line of the incision below one of the Gun-shot Wounds.

A young soldier in the action at the foot of the Atlas, on the 1st of April, 1836, was wounded by a musket ball which entered immediately beneath the

lower edge of the left patella, and came out in the centre of the ham. The head of the tibia was broken into several fragments.

The skin of the leg being drawn strongly upwards, M. Baudens made a circular cut through the integuments. The line of this incision was kept about five finger-breadths below the inferior edge of the patella, and three inches below the condyles of the femur posteriorly. The integuments were then dissected upwards all round, except behind; the capsular and other ligaments divided, and, while the popliteal artery was compressed by an assistant the posterior flap was formed by one stroke of the knife. Only one artery required ligature. The lips of the wound were held together by four stitches of the interrupted suture. The healing was speedy and perfect.

M. Baudens says that the circumstance of the gun-shot wound in front being above the line of the anterior flap was rather favourable than otherwise to the cicatrisation. It afforded a convenient outlet to any pus which formed. The line of the cicatrix on the face of the stump was situated well back in the popliteal space, so that it quite escaped pressure when the patient used a wooden leg.—*Lancette Française, Juillet, 1836.*

The operation of amputating in the knee-joint is never likely, we should suppose, to be generally or even frequently adopted. It possesses no advantages, unless perhaps that of saving two or three inches in the length of the stump; and it is certainly liable to numerous and very serious objections. One of the Paris hospital surgeons, (M. Velpeau, we think) has very recently been *experimenting* on this subject, and the result of his trials in three or four cases has been that every patient died.

RADICAL CURE OF VARICOSE VEINS AND OF HERNIAE BY ACUPUNCTURATION.

M. Bonnet, chief surgeon of the Hôtel

Dieu at Lyons, informs us that he has treated eleven cases of varicose veins by introducing pins through their cavities, and allowing them to remain there for some time. Nine of these cases were cured. He has applied the same treatment to herniary sacs; and the following is a short account of his method, and of the success which he has obtained from it. He passes three or four pins through the herniary coverings close to the inguinal ring, and in order that they may exert a certain degree of compression, as well as of irritation, on the sac, he twists upwards their points and heads, so as to give them a circular direction.

Caution is necessary not to injure the spermatic cord. The inflammation and pain commenced usually on the third or fourth day after the operation, and the pins were removed a few days afterwards. M. Bonnet has treated four cases of inguinal herniæ by acupuncture. In two of these, the herniæ were small, and three weeks sufficed for the cure. The third was more troublesome. It occurred in an old man 67 years of age, and in him the hernia descended to the bottom of the scrotum, and was with difficulty kept up by a truss. Six needles were used. After a month's treatment, this patient could walk about, without any tendency of the viscera to descend. In the fourth case, the hernia was of 30 years' standing; no truss could keep it up; the inguinal aperture was large enough to admit "l'introduction de cinq doigts reunis," and the tumor descended a considerable way down the thigh. Five weeks were necessary for the cure. We are assured that all these patients could cough and walk about freely without any escape of the bowels and that the inguinal ring was so plugged up, that it could no longer be distinctly recognized.—*Bulletin de Therapeutique*

The proposal of M. Bonnet is certainly more worthy of notice, and promises better success than that of M. Gerdy, which we noticed in the Foreign Periscope of a recent number.

SPONTANEOUS GANGRENE OF THE LEG —AMPUTATION BEFORE THE LINE OF SEPARATION WAS ESTABLISHED.

A woman, 40 years of age, experienced quite suddenly an icy coldness and very painful cramps in the left leg, from the toes to the knee. She fell down in a state of almost complete insensibility. The surface of the body was cyanosed, the action of the heart was tumultuous, no pulsation could be felt at the wrist, and there was dyspnœa, amounting to almost complete orthopnœa. The affected leg was of a marbly white colour; the toes were contracted convulsively, and the calf of the leg was excessively painful, the pains being much aggravated by any movement. This woman had been labouring under disease of the heart for several years. On the morrow the affected limb became of a livid red colour, and swollen as far as the knee. Phlyctenæ began to be formed at several points, and the patient complained of a burning heat in the limb. Two days afterwards there was much feverish disturbance, accompanied with some mental confusion; the limb was still very painful; it was black from the toes to the middle of the calf, of a livid red hue thence to the knee, and covered with several large phlyctenæ. An inflammatory redness affected the outer and back part of the thigh, as high up as eight inches above the knee.

M. Amussat amputated the limb at the lower part of the thigh; four vessels were tied. The wound healed by the first intention. On dissecting the amputated limb, a coagulum was found in the popliteal artery, adhering to its internal membrane, and extending for the distance of some lines into the anterior tibial. The popliteal vein also was plugged up in the same way as the artery; its walls were much thickened and seemed more like those of an artery than of a vein. The sciatic nerve at the same point was found to be swollen and of a dark hue.

CLINICAL REVIEW.

FEVER IN AMERICA AND IRELAND.

1. PHILADELPHIA HOSPITAL.

Differences between Dothinenteritis and the Typhus Fever, which occurred at Philadelphia in 1836. By W. W. Gerhard, M. D. &c. &c.

Dr. Gerhard is an observant, a well-educated, and a talented physician. His situation at the Philadelphia Hospital has offered to him opportunities of investigating disease, of which he has amply availed himself.

The present subject is interesting, because it would appear that the typhus fever of different parts of Europe, nay, even of England and Ireland, is far from presenting uniform characters. In one place follicular inflammation and ulceration obtain; in another they do not. It is of great consequence to accumulate observations upon this point, because exclusive doctrines have been maintained even by able physicians, and false rules of treatment have been necessarily deduced from them. Let us compare the typhus of Paris with that of Philadelphia, in 1836.

"During a residence," says Dr. Gerhard, of two or three years at Paris, I had studied with great care the pathology and treatment of the disease usually termed, in the French hospitals, typhoid fever, or typhoid affection. There is another designation for it, founded on its anatomical characters, and therefore more directly in accordance with modern medical nomenclature; it is dothinenteritis. This variety of fever, which is identical with the disease termed typhus mitior, or nervous fever, is frequent at Paris, and is almost the only fever which can be said to be endemic there. Intermittent and remittent fevers are rarely seen, except amongst those individuals who had already contracted some form of these diseases in the malarious districts of France. Some slight fevers, attended with a whitish or yellow tongue, and gastric symptoms, occasionally occur;

they scarcely assume the form of a fixed disease, and usually disappear under a very simple treatment."

Dothinenteritis is the fever which has been graphically described by Louis, and which must be too familiar to our readers to demand any further notice at present. But we will accompany Dr. Gerhard to America.

"Dothinenteritis is by no means a rare disease at Philadelphia, although less common than at Paris. In the essay alluded to, I established the identity of the anatomical characters and of the symptom of the fever, occurring at Philadelphia, with that observed at Paris. I also shewed that the patients were chiefly those who had resided but a short time at Philadelphia, and that they were taken ill on ship-board, or under some circumstances causing an abrupt change of food and habits of life. They were also young persons, but few having passed the age of twenty-five years. Both these conditions of age and change of habits are observed to be essential to the development of typhoid fever at Paris.

Having once established the complete identity of a fever which is so common at Paris, and so well described, with a similar affection, not unfrequently met with at Philadelphia I examined the pathological phenomena of our remittent and intermittent fevers of the severe malignant character so frequently observed along the southern coast, and sometimes occurring in those malarious parts of the country which are situated within a short distance of Philadelphia. In all these fevers, the glands of Peyer, as well as the other intestinal follicles, were found perfectly healthy; the large intestine was occasionally but not constantly diseased, while the stomach, and, to a still greater degree, the liver and spleen were invariably found in a morbid condition. If the fever proved fatal in the course of the first fortnight, the liver and spleen were softened as well as enlarged; but if the disease assumed a more chronic form, the viscera were

hardened as well as hypertrophied. The latter state was the first stage of these chronic lesions which are formed in the livers of patients long affected with remittents or intermittents, and which continued throughout the course of the ascites, which is so common a consequence of these diseases. I made numerous examinations of the bodies of patients who died of the same variety of malignant remittent and intermittent during the summer of 1835, and still more frequently in the epidemic of 1836, a year in which these diseases have been unusually fatal throughout the southern states. The results of these late examinations have confirmed those already obtained, and shewed that the follicles of the small intestine are free from lesions, and that the anatomical character of the disease is to be looked for in the spleen, liver, and stomach.

The bilious and yellow fevers are probably referrible to the same class as the malignant remittents; but in yellow fever the disorganization seems to be most extensive in the stomach, whence arises the black vomit, which forms a characteristic symptom of the disease. Bilious fever, or, in other words, the remittent fever attended with unusual alteration of the liver and a disordered secretion of bile, is common with us. Yellow fever is rare, and occurs in an epidemic form at such long intervals, that I have seen but few cases of it." Dr. Gerhard turns to Great Britain, and observes that in these islands the usual type is not dothineritis, and that there is no constant anatomical lesion. He refers to the memoir of Dr. Lombard of Geneva, published in the Dublin Journal for September 1836, and, we may add, analyzed in our own for January 1837. He very properly adds, that full and accurate accounts of cases from British physicians are much wanted. They are so.

Dr. Gerhard goes on to state, that, in America, there have occurred several epidemics of fever, more or less similar in their nature to the British typhus. He refers to them, but the information respecting them is loose.

For a period of at least ten years there has been no epidemic of this na-

ture at Philadelphia. In the year 1827, a large number of Irish emigrants were ill of a typhoid fever, with ulceration of the small intestines, which was probably dothineritis, and during several successive years there were more or less extensive epidemics of remittent and intermittent fevers, occurring in the neighbourhood of the city, but not often extending into the central parts of the town. Occasionally, sporadic cases of fever, of a comatose or typhoid character, would occur; but these cases were nearly always either some form of malignant remittent, or else they occurred during the winter months, and were complicated with pneumonia. The inflammation of the lungs then appeared as the first stage in the disease, which afterwards assumed those cerebral symptoms of stupor and feebleness which have procured for it the designation of pneumonia typhoides. At Boston, in the year 1833, there was an epidemic dothineritis of extreme gravity and unusually fatal.

"In the Winter of 1835-6, there was an unusual number of cases of gangrene of the lungs at the Philadelphia Hospital, and but few of decided pneumonia. Several cases of dothineritis occurred in the Autumn, but there were few afterwards. During the Winter, a form of fever not commonly met with at the hospitals, was observed from time to time. It was characterized by pungent burning heat of the skin, dusky aspect of the countenance, subsultus, delirium, with great stupor and prostration; but there was no diarrhoea, and but few other symptoms referrible to the alimentary canal. It was the disease which afterwards appeared as an epidemic. At first it was not well understood by us, was sometimes confounded with bronchitis or pneumonia typhoides, from the complication of pulmonary disease with the symptoms of the fever. These cases recovered under the use of a mild stimulating and supporting treatment, with one exception, in which death ensued from sloughing of the sacrum and gangrene of the lungs."

In the early part of the month of March, the admissions for the fever

were more numerous, and several patients were admitted from the same neighbourhoods and same houses. This excited the attention of Dr. Gerhard, and, in company with his friend and colleague, Dr. Pennock, he instituted a strict examination of the characters of the disease. The results are the produce of the joint labours of these gentlemen; and we may content ourselves with saying that they took the utmost pains to render them as complete as possible.

The number of cases admitted with typhus, was 214. Of this number there were 120 men and 94 women. A few cases who were at the same time in the wards, and already under treatment for other diseases, are not included, although they were afterwards affected with the prevailing epidemic, but their names on the register present only the disease for which they had been admitted. The whole number of cases is, therefore, from 230 to 250. A large majority of the 214 patients were negroes or mulattoes; there were 147 people of colour and 67 whites. The disease first appeared in the former class of patients, and always prevailed more extensively amongst them than the whites who were living in the same part of the town, and exposed nearly to the same causes of disease.

The patients were obtained from various parts of the city and the neighbouring districts; but, as might be anticipated, the greatest number came from the lowest, most crowded, and most filthy quarters.

"Classes of persons affected.—The first patients were almost exclusively from the poorest and most intemperate class of people, chiefly day-labourers. Such was the case with most of the blacks, especially the men, who were almost without exception in the habit of drinking freely of ardent spirits. The women were without fixed occupations, or were servants out of place. As the disease extended to the different parts of the city, people of various occupations were affected; amongst them there was one respectable physician, who died of the fever. The extension of the disease to those in easy circum-

stances, was shown in the practice of several eminent physicians of Philadelphia; they had not seen a case until the fever had prevailed some months at the hospital, although they afterwards met with it in their private practice."

Mode of Propagation of the Disease.—Its origin was unknown, as that of most epidemics. Its extension, too, and diffusion, followed the course of epidemics. But Dr. Gerhard had reason to believe it contagious. The strongest evidence was obtained in the hospital, and it is as follows:—

"Three of the principal nurses, and about a dozen assistant nurses, besides a number of patients ill with various diseases, were taken with the fever. The three principal nurses belonged, two to the wards for blacks, where there were the greatest number of fever patients, and the third to a ward for whites, where there were several cases. There was only one nurse of a ward in which many of the patients were collected, who escaped, but several of his assistants and patients were taken ill. Two of the resident physicians in attendance upon the same ward, where the patients were most numerous, were also severely ill with the fever. On the other hand, no nurse from the part of the hospital where there were but few or no typhus cases, suffered, and the number of patients taken ill in the surgical or lunatic wards was very small, not exceeding six in number. The wards in which fever patients were placed did not contain more than a third or a fourth of the population of the hospital; yet the number of cases originating in them after the first introduction of the disease, was at least four times as great as in all the other parts of the building. The almshouse and house of employment, which are separated from the hospital by a space of at least forty feet at the nearest points, furnished five or six cases, probably not more than the same number of poor in any other part of the neighbourhood would have done.

The proportion of attendants upon the sick who suffered was in exact relation to the number of fever patients

in the ward; thus, in the wards for blacks (both men and women), and in the men's medical, No. 1, scarcely an assistant escaped. In the other medical wards a few were taken ill, and in the surgical and lunatic wards all the nurses escaped. The matter of the contagion, be it what it may, was generally mingled with the air, but sometimes seemed to be combined with the pungent hot sweat of the patients. In some cases the contagion was evidently direct from body to body. This was established by the evidence of a nurse and an assistant, both persons of intelligence, and, from their familiarity with the disease, quite free from fear. The nurse was shaving a man, who died in a few hours after his entrance; he inhaled his breath, which had a nauseous taste, and in an hour afterwards was taken with nausea, cephalalgia, and ringing of the ears. From that *moment* the attack of fever began, and assumed a severe character. The assistant was supporting another patient, who died soon afterwards; he felt the pungent sweat upon his skin, and was taken immediately with the symptoms of typhus. The wards in which the fever patients were placed, were large and well ventilated. We were at first disinclined to believe that the disease would prove contagious; but as soon as the fact was clearly proven, measures were taken to move the patients not yet affected from most of these wards, and, if it had continued for a longer period, an efficient local quarantine would have been adopted. Dead bodies either did not communicate the contagion, or its influence was easily counteracted by favourable circumstances. Both Dr. Pennock and myself, and several of the resident physicians, were engaged nearly every day, during the most intense prevalence of the disease, in making long and laborious anatomical investigations, without suffering from the fever. It is very clearly proven that the typhoid fever, or dothi-enteritis, is not contagious."

Age.—Children were very rarely attacked by the disease. After childhood, age seemed to exert but little influence.

Sex.—This seemed also of little moment. The numbers affected were 120 men and 94 women, about the relative proportion of ordinary patients in the hospital.

Use of Ardent Spirits.—A large proportion of the patients were known to be intemperate; but most day-labourers drink freely, and the number of typhus patients who were intemperate did not greatly differ from that of those affected with other acute diseases. Most of the women were not intemperate.

Season of the Year.—The epidemic began in March, and continued until August. There were a few scattered cases afterwards. The Summer was unusually cool, and the Spring and Winter cold. It was remarked, that as the Summer advanced, and an epidemic dysentery appeared, the fever was changed in character, and frequently offered a new symptom, that is diarrhoea, which was wanting in the earlier months.

Colour.—The proportion of deaths amongst the black men was much greater than amongst the whites; thus of the whites, one died in $4\frac{2}{3}$; amongst the blacks, one in $2\frac{1}{2}\frac{2}{3}$. Amongst the women the reverse was true; thus, one woman died of $4\frac{3}{5}$; but only one coloured woman in $6\frac{1}{5}$ nearly. These two results would, therefore, appear contradictory, unless explained by other causes.

Pathological Anatomy.—Dr. Pennock and Dr. Gerhard instituted very careful pathological examinations, and neglected no opportunity of examining the dead. The results are thus recited:—

"In this large number of autopsies, amounting to about fifty, there was but in one case, and that doubtful in its diagnosis, the slightest deviation from the natural appearance of the glands of Peyer. In the case alluded to, in which there had been some diarrhoea, the agglomerated glands of the small intestine were reddened and a little thickened; but there was no ulceration and no thickening or deposit of yellow puriform

matter in the submucous tissue. The disease of the glands resembled that sometimes met with in small-pox, scarlet fever or measles, rather than the specific lesion of dothineritis. In all other cases, the glands of Peyer were remarkably healthy in this disease, as was the surrounding mucous membrane, which was much more free from vascular injection than it is in cases of various diseases not originally affecting the small intestine.

The mesenteric glands were always found of the normal size, varying, as in health, from the size of a small grain of maize to three or four times these dimensions. With the exception of a slightly livid tint, common to them and the rest of the tissues, they offered nothing peculiar either in consistence or colour.

The spleen was of the normal aspect, in one half the cases, in the other half it was softened, but not enlarged, and in one case out of five or six, enlarged and softened.

Thus, the triple lesion of the glands of Peyer, mesenteric glands and spleen, constituting the anatomical characteristic of the dothineritis or typhoid fever, although sought for with the greatest care, evidently did not exist in the epidemic typhus. Indeed, it was a subject of remark, that in the typhus fever the intestines were more free from lesion than in any other disease accompanied by a febrile movement. This exemption extended to the large intestine until the summer heats began, when a few scattering cases offered some symptoms of diarrhoea, during the prevalence of an epidemic dysentery; and where they terminated fatally, softening and other signs of inflammation of the mucous coat of the colon were observed.

The fact that the morbid changes pathognomonic of dothineritis, are not met with in the typhus fever, would of itself seem conclusive that the two diseases are no more identical than pneumonia and pleurisy. Although, in some respects, the two affections are analogous, and even similar, the radical difference of anatomical lesions is at least as well marked as the distinction between the symptoms. It is, indeed,

singular that there should of late be a strong tendency to confound two fevers, which were regarded as entirely distinct by some of the older physicians. The prominent symptoms and difference of treatment being particularly well pointed out by Huxham."

Appended to this excellent memoir are several cases with their diurnal details, and the minutes of their dissection. These it is unnecessary for us to enter into. The memoir itself is not completed, the influence of treatment, and some other circumstances remaining for consideration. When the conclusion appears, we shall not fail to put our readers in possession of it. In the mean time, we may take the opportunity of remarking on the scientific character of Dr. Gerhard's investigations.

We shall associate with the preceding two other reports on fever, although not of Trans-Atlantic origin. They are contained in the Dublin Journal, and emanate, of course, from the Emerald Isle. The first is from Limerick.

II. ST. JOHN'S FEVER HOSPITAL.

Report of St. John's Fever and Lock Hospitals, Limerick. By W. J. Geary, M.D., &c. &c.

Fever prevailed extensively in Ireland in 1836, and no fewer than 3269 patients were admitted into the St. John's Hospital in that year—a number exceeding that of the average annual admissions since the regular opening of the house in 1794, by 2443, and exceeding even that of the fatal 1817-18, by 116.

The hospital itself has now "full resources" for 218 patients, and 211 have been under treatment at one time during the year.

"During the present period as well as former periods, when fever had prevailed extensively, the mortality and type of the disease do not appear to bear any regular proportion to the number attacked. If we examine the term from 1817 to 1819, we shall find that the deaths were to the recoveries as 1 in 13½—1-13½, and 1 in 16½ for each year respectively; while the numbers admitted for these periods were 1273, 2787, 3153; the disease appearing to

assume a milder form as it continued to advance. The mortality during the present epidemic, which may be dated from 1835, was for that year 1 in 12½, and for 1836, 1 in 13½; the admissions for the former year being 1484, for the latter 3227."

It would appear that, since 1817, fever has been on the increase in Ireland. To what cause, asks Dr. Geary, are we to attribute this? His answer is by no means satisfactory.

"Are poverty in food and raiment, mental depression, and exposure to wet and cold, its source? If these were in themselves sufficient, we should be led to expect, that in proportion to the public exigency, we should find fever existing. It is needless to observe, that this relative condition is not in strict accordance with our experience. The due share which they manifest in the production of disease cannot be withheld from these exciting causes; but we are inclined, from very extensive opportunities of noticing the sick poor, to class them as secondary in some degree to the enervating effects of spirituous and fermented liquors, in which they but too commonly indulge to a pernicious extent. To this we may add to the total abandonment by them of any effort of cleanliness, as well as their great anxiety to keep the sick at home, to share alike their affections and wants, thus favouring the propagation of dis-

ease through contagion, under circumstances the most auspicious for its development. Are we warranted in supposing that the atmospheric constitution has undergone any alteration during the epidemic, which fits it for exercising a more effective febrile influence on the human frame? It is at least worthy of note, that the great and steady existence which fever latterly manifests, dates from that period, and should we be asked, whether the constitution of the Irish people is adapted in any peculiar degree to the reception of contagious miasm, we profess ourselves unacquainted with any information which could lead to such a conclusion."

Towards the close of 1826, the admissions became so urgent that two visiting physicians were appointed by the governors of the City Dispensary, with the view of attending the sick poor at their own houses. Dr. Geary was one of the physicians in question, and retained his situation till 1832, when he resigned. In that period, the numbers attacked with fever within the cities and liberties are susceptible of something like accurate appreciation. They are exhibited in the following table. The out-door patients are compared with the in-door patients in the period extending from the 6th January, 1827, to the 5th January, 1832.

Year.	HOSPITAL RETURN.			DISPENSARY RETURN.			Total.
	Admitted.	Died.	Average Mortality.	Attended.	Died.	Average Mortality.	
1827	2781	137	1 in 20	2800	80	1 in 35	5581
1828	854	37	1 in 23	960	22	1 in 39	1714
1829	506	23	1 in 22	640	18	1 in 35	1146
1830	806	34	1 in 23½	910	25	1 in 36	1716
1831	1015	65	1 in 15½	920	31	1 in 29	1935
Total.	5962	296	1 in 20	6130	176	1 in 34	12092

"Assuming the population at 63,310 (which is the mean of the census taken in 1821 and 1834), we shall find that the proportionate liability to fever in this district during 1827, after deducting one-sixth for county patients, and four per cent. for relapsed cases, admitted into the Fever Hospital for that year was 1 in 12½; and for the average of five years 1 in 29½: this of course is independent of the cases occurring in private practice, as well as those who may have been attacked with fever in the Liberties, and been unwilling to go into Hospital. This susceptibility to a given disease, we acknowledge to have come upon us rather by surprise, and should be somewhat incredulous on the point, if the documents from which these facts are deduced were not compiled by ourselves. Such an amount of steady and progressive disease almost tempts to the conclusion that

fever has selected Ireland for its nursery, and that the Irish endemics may yet become as proverbial as yellow fever in the tropics, intermittents in the marshy districts of Holland, or malaria in Italy. We shall briefly sketch the district, which has become the theatre of such a visitation, and the extent to which poverty prevails in it. Indeed it must be obvious, that without such information, our observations must prove very defective to those who are unacquainted with our particular position."

Dr. Geary here draws a miserable picture of the poverty, crowding, and filth of the poorer classes in Limerick, who occupy the old town. The sketch that he presents is calculated to enforce the necessity for a legal provision for the poor in Ireland. The following is a tabular view of the mortality from fever:—

Year.	Admitted.	Cured.	Died.	Average Mortality.
From 1794 } to 1819. }	10,954	10,336	618	1 in 17½
From 1820 } to 1836. }	22,682	21,338	1,344	1 in 16
Total . . .	33,636	31,674	1,962	1 in 17

III. NAVAN FEVER HOSPITAL.

1. *Observations on the Use of certain Remedies in Typhous Fever, and its Complications.* By Alfred Hudson, M.B. T.C.D., Physician to the Navan Fever Hospital.*

The pathology and the treatment of typhus stand the best chance of being enriched, at present, from the "seven millions." The "finest peasantry on the earth" are the victims that typhus rejoices in, and their physicians enjoy ample opportunities of observation.

We refer to the paper of Dr. Hudson, principally for the sake of ascertaining

the results of his experiments with remedies exhibited in particular forms of typhus, or for particular symptoms of it. The extracts therefore must not be expected to display any necessary connexion.

A. *Treatment of Fever.* "I have been disposed to look for its indications to the condition of the viscera, and those symptoms which may daily arise, and not to the adoption of any routine system. I believe it is better to do too little than too much, and I therefore abstain from all hazardous modes of evacuation, once the disease has become established; such I conceive to be *bleeding, purging, and sweating.* If the type of the case be pure continued fever,

* Dublin Journal, July, 1837.

I usually content myself with ordering the diaphoretic mixture of the hospital, consisting of equal parts of camphor mixture and *acqua ammoniæ acetatis*, with an occasional small dose of calomel, reserving all more active measures for such complications as may arise. Of these, the most frequent is the *gastric*. In more than half the cases of synchus, the prominent symptoms were those of gastrite, and the relief afforded by leeching or cupping the epigastrium was constant and remarkable. In many cases, crisis followed immediately; in all, the patients expressed themselves relieved from prostration, weight, tightness, and similar feelings. As regards prostration in particular, my experience leads me to consider leeches, indicated by its existence in the early periods of fever, as certainly as is the necessity for wine by the same symptom in its advanced stage."

b. Headache and Watchfulness. "In those cases in which headach and watchfulness are complained of, I am in the habit of adding opium to the diaphoretic mixture, in the proportion of twenty-four drops of the acetous tincture to eight ounces; and I have constantly found all the good effect described by Fordyce to follow this medicine, (3rd Dissertation, p. 236)"

c. Catarrh in Fever. "Another very frequent and most serious complication of the continued fever of this country, is catarrh. As I have already stated, all our fatal cases of synchus suffered from it, and in many others it was with difficulty subdued. Antiphlogistic treatment seemed to have little power over it; when once it was established, it ran into the secreting stage, and then the patients only chance was derived from a liberal supply of wine and nourishment, and the exhibition of the stimulating expectorant medicines: of these, the decoction of polygala, with carbonate of ammonia, was commonly given; and in very severe cases, a bolus of carbonate of ammonia, camphor, and musk, was found to be a most efficient remedy. In some instances, especially in old persons, I found warm punch of

eminent service, when wine seemed to have lost power. I do not substitute it for wine in any instance; and these are the only cases in which I have seen any benefit from conjoining it; but here it produces sudden and powerful effects when wine has failed, giving force to the cough, and causing copious expectoration, restoring the warmth and natural colour of the surface, &c."

d. Stimulation in Fever. In the "general management of a case of severe continued fever, it is usually found necessary to change gradually from the expectant to a stimulating mode of treatment. I am in the habit of commencing the change (as soon as there is any appearance of the prostration of the advanced stage) by adding carbonate, or aromatic spirits of ammonia, to the diaphoretic mixture, and, as occasion requires, modifying this still farther by withdrawing the acetate of ammonia, and adding serpentaria, nitrus æther, &c., as may be indicated by the symptoms. As a general rule, also, I commence the exhibition of wine on the patient's first complaint of weakness, if the fever has advanced beyond the tenth day. I usually begin by ordering four ounces in the twenty-four hours, and increase this gradually, as may be necessary, afterwards withdrawing it in the same manner; the daily allowance seldom exceeded ten ounces: in some cases it rose to sixteen, and in a few to twenty-four ounces. The total amount of wine consumed in the two years was 267 bottles."

e. Treatment of Gastro-enterite, and Diarrhæa. "Gastro-enterite occurred very seldom in the course of the fever. We had not in all more than twenty cases of diarrhæa, which may be attributed, I think, to several causes: 1st. The practice of leeching the epigastrium early in the disease. 2nd. Abstaining almost entirely from purgatives, and trusting to enemata for freeing the bowels; and perhaps to my seldom giving porter as a stimulant, as I found it so apt to produce purging, that I almost entirely relinquished its use.

In the instances in which diarrhæa

occurred early, it yielded to the application of leeches over the cæcum, and small doses of mercury with chalk, and Dover's powder, with mucilaginous drinks. In the more advanced period, a blister to the abdomen, and mixture of port wine and mist. cretæ succeeded very well. In some of the fatal cases, diarrhœa came on with sweating, exemplifying Baglivi's aphorism, "Si eadem tempore in acutis et gravibus morbis, duæ crisis, sudor scilicet et alvi fluxus superveniant cum paucis levamine symptomatum, fere omnes moriuntur ut sæpe vide."—*Prælex Medica*, lib. i."

F. Chloride of Soda in Typhoid Fever.

"The general treatment and complications of typhoid fever differ materially from the preceding. As regards the former, I have found, in some instances, bad effects from even small bleedings, and should in most instances, if the typhoid type were fully ascertained, prefer relieving local congestions by blisters alone, or at most, by a very small number of leeches. As a routine practice, I think the solution of chloride of soda is to be preferred to any other, provided that it be given as soon as possible after the type of the fever is known, which in many cases means, of course, as soon as the fever has set in. I cannot say that I have seen such good effect from its use in more advanced stages, though I have prescribed it in a large number of such, and still do so; not, however, to the exclusion of any one of our tried and approved remedies. But I have noted forty-seven cases of typhoid fever in which I commenced its use as soon as the patient was admitted or the type of the fever was evidenced by the appearance of petechiæ, &c., and in every instance with the best effect, this being, in many cases, the only medicine given; the dose was from ten to fifteen drops. In some of these cases, the effect of the chloride was evidenced by the change of colour, and diminution in number of the petechiæ, 'taches rosées,' within twenty-four hours, shewing, I think, that its action is exerted directly upon the blood, and not as a stimulant of the nervous system, as a late writer in the Dublin

Journal seems (erroneously surely) to have inferred from Dr. Graves's paper on this subject.* For myself, while my limited experience leads me to place the fullest confidence in the chemical effects of this medicine, given early, I have not the least reason to attribute any stimulant powers, nor indeed any good effect whatever, to it in that stage of prostration and adynamia, which Dr. Graves has so graphically described and in which he considers the chloride a remedy worthy of confidence."

G. *Treatment of Delirium.* "In the mildest forms, a blister applied to the neck, and small doses of opium, generally sufficed to remove it; but we had many cases in which these measures were quite insufficient; in some of them wine was found to be the best soporific. In six cases I tried Dr. Graves's mode of giving opium, viz. in combination with tartar emetic. In one, a case of furious delirium, this treatment, as well as every other, failed: in the others, and in numerous cases since the period comprised in this report, it succeeded admirably. It seems best adapted to that restless kind of delirium resembling delirium tremens, in which the patient cannot be restrained from attempting to leave his bed, and walk about the ward; when every muscle is tremulous, the eye red from want of sleep, the tongue dry, and the patient presenting that kind of spurious excitement which might induce the attendant (injudiciously, no doubt,) to order the local abstraction of blood, by leeching the temples or opening the temporal artery. I could here give reports from my note book of several cases thus treated, but that I consider it would be rendering tedious a paper already too long. In prescribing this medicine, I find it advisable to use great caution in two ways: 1st. Not to give it *after* it has produced sleep. 2nd. To follow it

* "Dr. Master's Statistics of Fever Dub. Med. Jour. No. 28. Dr. Graves's paper, read before the British Association, August, 1835. Dublin Journal, No. 22."

up by the prompt and frequent exhibition of wine, and such nourishment or cordials as the more or less advanced stage of the disease, and debility of the patient may require; as it seems to me that there is increased risk of the patient sinking, unless timely supported after sleep thus induced."

H. *Subsultus and Hiccup.* Musk exerted most influence in controlling them.

1. *Hysteria*, frequent during convalescence, always yielded to large doses of assafoetida. In one case in which it resembled mania, a full dose of opium was of the greatest benefit.

J. *Tartar Emetic in "Indolent Pneumonia."* Dr. Hudson makes some remarks on typhoid pneumonia, but they need not detain us. He also directs attention to "an indolent form of inflammation of the lung," independent of typhus, remarkable, in his opinion, for the rapidity with which the passive congestion is resolved by tartar emetic when mercury has failed. He cites the following as a very illustrative case.

Case. Dr. H. was called in consultation with another physician, in July last, to see a gentleman who had, a month before, suffered an attack of pneumonia. He had been actively treated at the outset by bleeding, blistering, and calomel, and had for some time appeared to amend gradually. For near a week, however, he had been sliding back into the same state as at first. He had cough, very considerable dyspnoea, bloody sputa, and complained of a feeling of weight and oppression in the right side. Here the signs were a general feebleness of respiration, amounting, in the lower portion, to almost perfect nullity, with dulness on percussion, and increased resonance of voice over the same portion, but not a trace of crepitus: respiration was puerile over the left lung. His mouth was still sore from calomel, so that its farther exhibition was out of the question; and it was agreed that he should be treated by repeated applications of

leeches, and cupping-glasses to the side and tartar emetic, in doses of a grain every third hour. After the first dose, he had the most perfect tolerance of this medicine for a week. In three days the commencement of resolution was indicated by a fine crepitus in the affected part: this gradually became more distinct for a few days, then was mixed with respiratory murmur, which by degrees became pure, until at the end of a fortnight resolution was perfected.

2. *On the Cause of Tympanitic Sound on Percussion over an Inflamed Lung.* By Dr. Hudson.*

The phenomenon in question has been observed by Dr. Graves, and by Dr. Stokes, who have attributed it to air secreted in the pleura. But neither has proved the truth of the supposition by dissection.

Dr. Hudson has lately had a case, which goes to contradict the hypotheses alluded to, and, as he supposes, to establish his own. This can only be explained by a quotation.

"To those who have read Dr. Williams's remarks on percussion,† and who coincide with his views, the phenomenon will not seem incredible, nor perhaps the following *rationale* improbable.

I regard it as the necessary result of three conditions:

1st. Elasticity and tension of the parietes.

2nd. A homogeneous, solid state of the lung.

3rd. Air in the larger bronchial tubes.

The importance of the first condition may be illustrated by a drum head. That of the second is equally apparent, when we consider the effect of changes of media upon the vibrations of sound; and these, too, are necessarily associated in some cases of pneumonia, occupying the lung in its entire circumference; for till then, the tumefaction of the inflamed portion may take place at the expense of the uninfamed part; but

* Ibid.

† "London Med Gazette, January."

when all becomes engaged, it must be *outwards*, and a state of tenderness of the parietes is the consequence."

The explanation must certainly be considered dubious. The following is the case.

Case. The patient, a young woman, was admitted into hospital on the sixth day of a pneumonia, complicated with gastro-enteritis, and which, on examination, was found to occupy the anterior and superior portion of the right lung, and a small portion of the inferior part of the left. She was apparently dying, but by repeated local bleedings, &c. &c. was relieved, and lingered for two days. On the day before her death, the right side, previously quite dull on percussion, was found to give a remarkably loud, clear sound, of a decidedly tympanitic character; much clearer, in fact, than the sound yielded by the other side, or by the stomach.

On examination of the body, it was found that:—the stomach was extensively inflamed; the lower portion of

the left lung engorged; and the whole of the right lung solid, the red *passing* (in spots) into the grey hepatization. The pleuræ were adherent.

ST. GEORGE'S HOSPITAL.

QUARTERLY REPORT OF PATIENTS TREATED IN ST. GEORGE'S HOSPITAL. By Dr. SEYMOUR.

The following is a report of the cases treated in this hospital by Dr. Seymour, one of the physicians to the institution. In addition to his own patients, he twice admitted those of Dr. Chambers during the absence of the latter.

The cases treated during the quarter amount in number to 96. The following is a tabular view of them. It specifies the nature of the disorder—the sex of the patient—the number cured, relieved, or dead—and those who still remain under treatment. The report extends from June 19th to September 19, 1837, both inclusive.

NAME OF THE DISEASE.	No. of Patients.	Male.	Female.	Cured.	Relieved.	Died.	Under treatment
Pneumonia	7	6	1	all	—	—	—
Rheumatic Fever	5	3	2	all	—	—	—
Synovial Rheumatism	6	3	3	2	1	—	3
Rheumatic Pericarditis—Chronic	2	1	1	—	—	—	—
Rheumatic Gout	2	2	—	1	—	—	1
Gout	3	3	—	1	—	—	2
Gastric Fever	9	4	5	all	—	—	—
Dysentery with Purpura	2	2	—	—	went away, 1	—	1
Anasarca, from Disease of Heart	4	4	—	dropsy cured, 2	—	2	—
from Disease of the Heart and Kidney	2	—	2	—	—	1	1
from Cold, with Syphilitic Eruption	1	1	—	1	—	—	—
Organic Disease of Brain	3	1	2	—	2	1	—
Paraplegia	3	1	2	—	1	—	2
Phthisis Pulmonalis	4	3	1	—	—	4	—
Bronchitis	2	—	2	1	—	—	1
Asthma from Dilatation of Aorta	1	1	—	—	—	—	1

NAME OF THE DISEASE.	No. of Patients.	Male.	Female.	Cured.	Relieved.	Died.	Under treatment
Ascites from diseased Liver	3	3	—	ascites in 2 cases.	1	—	—
Amenorrhœa with Hysteria	9	—	9	6	3	—	—
Leucorrhœa	2	—	2	—	—	—	2
Encysted Dropsy	2	—	2	—	by tapping, 2	—	—
Large growing Tumour of the Ovarium }	1	—	1	apparently.	—	—	—
Chronic Solid Tumours of the Ovarium }	2	—	2	—	—	—	2
Tænia	1	—	1	—	—	—	1
Nephritis (slight)	1	—	—	1	—	—	—
Mortification of the Lower Extremities from Disease of the Heart }	1	—	1	—	—	1	—
Epilepsy	1	1	—	—	1	—	—
Laryngitis	1	1	—	1	—	—	—
Aneurysm of the Arch of the Aorta }	1	—	—	—	—	1	—
Icterus	1	—	1	—	—	—	1
Cachectic Pains	3	3	—	1	—	—	2
Quotidian Ague	1	1	—	1	—	—	—
Inflammation of the Veins of the Legs }	1	1	—	1	—	—	—
Gastrodynia	1	—	1	1	—	—	—
Bilious Vomiting	1	—	1	1	—	—	—
Swelling of the Inguinal Glands	1	1	—	—	—	—	1
Colica Pictonum	1	1	—	—	—	—	1
Hæmoptysis	2	2	—	hæmorrhage.	—	—	—
Pain of Head, with Discharge from the Ear }	1	—	1	—	—	—	1
Erysipelas of Feet and Head whilst nurses }	1	—	1	—	—	1	—
Encephaloid Tubercles of Liver	1	—	1	—	—	—	1
Palpitation of Heart	1	—	1	—	1	—	—
Nervous pains after Erysipelas	1	1	—	1	—	—	—
Diabetes	1	—	1	—	—	—	1

The principal acute diseases; among these were pneumonia and acute rheumatism.

Six cases of pneumonia occurred nearly at the same time, and were attended with symptoms so remarkably similar in every respect, as to mark a peculiar form of disease. The greater number had been attacked on the same

day (in June), about five days previous to admission. In all there was a nearly total inability of inspiration. The lips were blue, the pulse very quick and small, the tongue dry, and in several, delirium occurred to a great extent; in the case of Gellinan, the delirium continued unabated during several days. The blood drawn from the arm was

uniformly much buffed and cupped in every case, and the treatment to subdue inflammation was successful in every case. The greater number were put upon calomel and opium (subm. hydr. gr. iij. opii, gr. j.) every four hours, with a nitre draught. After the second bleeding a blister was applied. Two of the cases occurred, however, in boys of colour (Francis and Gellinan), and experience has shown that the natives of hot climates are easily affected with pytalism, and often sink under it. In these cases, the use of the tartar emetic (not in the heroic doses of Italy), but in the dose of a grain every four hours, was substituted after bleeding for the calomel and opium.

In every case the solution of the disease appeared to arise from the expectoration of frothy mucus, much tinged with blood. In the majority of the cases this occurred on the third day after admission; in the worst cases on the fifth.

None of these cases proved fatal, but the convalescence of the severe ones was long.

The cases of acute rheumatism, affecting the muscles and ligaments, with swelling, the pain shifting from place to place, and attended by fever, were uniformly treated by bloodletting, ordered seldom more than once, and followed by doses of the *mistura guaiaci* of the *Pharmacopœia*, from ʒiiss .— ʒij . being given every four hours, and a grain of opium at bed-time. Under this treatment the recovery was rapid in every case; in one a relapse took place.

The rheumatism principally affecting the synovial membranes, was treated with colchicum; half a drachm of the wine of the root being given twice daily, and three grains of the acetous extr., with five grains of Dover's powder at bed-time.

The cases of gastric fever were uniformly treated in the same manner, and with success.

The patients laboured under continued fever; heat of skin; red, sometimes dry, tongue; pain, often not exceeding uneasiness, in the abdomen,

increased on pressing the right iliac region; thirst; want of appetite; and a greater or less degree of disturbance of the sensorium, as the individual was more or less affected by external impressions.

The stools were generally loose and ochry, sometimes watery and offensive. The treatment consisted in equal parts (gr. v.) of hydr. $\text{\textcircled{c}}$ cretâ and Dover's powder twice or thrice daily, and castor oil sufficient to move the bowels every second day. When the pain in the abdomen was greatly increased on pressure, leeches to the caput coli, and afterwards a blister, were prescribed.

The diet consisted in diluents, and two pints of beef tea daily, very cautiously increased to white fish, without vegetables, and afterwards to meat, with a little wine.

Two very severe cases of dysentery are marked in the list, both of them with petechiæ and great prostration of strength, so as to be referred to purpura hæmorrhagica.

The first of these in which the symptoms of dysentery predominated, was treated with calomel, gr. iij. opii, gr. j. every six hours, and enough castor oil to move the bowels every morning. This patient left the hospital as soon as he felt better, but not cured.

The second, in which the petechial spots were larger, and dark-coloured, and the discharge of blood very considerable, had, in addition to calomel and opium at night, half a drachm of oil of turpentine added to the castor oil in the morning, and with the best effect. He was very rapidly relieved; affording another instance, if such were wanting, of the great effect of this medicine in intestinal hæmorrhage.

One acute case occurred of disease of the brain (Gwyne). He was admitted with symptoms of continued fever, but complained of very severe pain in the head. He had been largely bled before, and was again bled immediately after admission. On the following day he had several fits of a very peculiar character. He stretched himself forward, catching at objects at a distance; not the floccitatio which precedes death, but as if he

perceived luminous objects. Several of these fits occurred, with intervals of excessive pain.

He was put on calomel and opium; the head blistered, and the blister dressed with mercurial ointment. Some temporary relief from pain appeared the consequence, but his fits returned, and in one of these he expired.

On opening the head, much fluid was found in the ventricles, but the posterior part of the right ventricle, and the thalamus on that side, was softened, of a yellow colour, and with spots of extravasated blood; and this appearance extended to the fourth ventricle and the crura cerebelli. A small quantity of semi-gelatinous fluid was contained between the membranes, over the optic nerves, and at the base of the brain. The extensive disorganization of the right thalamus, perhaps will account for the peculiar effects apparently produced on the organ of vision during the fits.

Of the irregularities of the menstrual discharge with hysteria, cases so common in the lower class of young females, it must be remarked that the irregularity consisted in almost every case in a diminished discharge, or absence of it during several months. The symptoms of distress were the well-known pain in either or both hypochondria, too severe to be inflammation, because, if proceeding from that cause, it would have been attended by great disturbance in the circulation, which was not the case; pain over the eyebrow, and sometimes globus hystericus. The shower-bath, and the preparation of assafœtida with ammonia, in severe cases, followed by steel; in less severe cases, steel, either the ammoniated tincture or Griffith's mixture, were administered with complete success; the bowels being kept open on alternate nights with 10 grains of the aloes and myrrh pill, or equal parts of pil. galbani compos. and the extr. colocynth c.

Among the chronic cases, the most remarkable was a case of sudden stoppage of the circulation in the lower extremities, arising in conjunction with disease of the heart.

In the last three years, three cases have occurred.

The first occurred in a middle-aged man, affected only with cough and much expectoration, slightly tinged with blood. Suddenly, when he had been a week in the hospital, while at the privy, he was attacked with intense pain in both legs, but most severe in the right. It is impossible to describe the severity of pain expressed to be felt. This was almost immediately followed by the commencing symptoms of mortification; the limbs became cold, covered with a cold sweat, and soon assumed a purple colour, reaching as high as Poupart's ligament. In this state the patient remained ten days.

On opening the body no morbid appearances presented themselves, except the singular thinness of the parietes of the heart, especially on the left side, which were also so soft as to be easily torn. A firm coagulum was formed in the common iliac on the right side, extending more than an inch, immediately before its division; and the internal membrane of the artery was discoloured, of a yellowish appearance, and softened.

The second case occurred last Spring in a middle-aged man, younger than in the last case, affected also with symptoms of catarrhal fever (influenza), with much mucous expectoration. The action of the heart was regular in this instance as in the last, but much more violent. Sudden and violent pain came on in the lower extremities, as in the former case; but motion remained equally unimpaired. A few days before death, an attack of palsy of the left side of the face took place. He survived the symptoms of mortification about five days.

On opening the body, the heart was found to be larger than natural; but the principal disease existed in the mitral valve, which was converted almost into a ring of bone, and the chordæ tendinæ greatly shortened. No disease was found in the brain; the palsy probably arising simply from the irregular distribution of blood.

The third case occurred in a middle-aged female, and was the most remark-

able among the chronic diseases of the last quarter.

As this case occurred so recently, it may be related more in detail.

Sarah Ridge, æt. 39, servant, admitted July 13.

Two days ago, was seized with violent pain in the head, and sickness, intense pain in the legs supervening; has complained of palpitation of the heart and dyspnœa occasionally for the last 15 months; at present the extremities are cold, and manifestly suffering from want of circulation; there is continued violent action of the heart; pulse scarcely perceptible at the wrist: bowels not open from medicine ordered on admission; has been bled without relief.

Hydr. subm. gr. iij.

Opii, gr. ʒ, 4tis horis.

Ol. ricini ʒss.

Fotus papaveris cruribus assedue admovend. Enema domesticum statim.

V. S. ad ʒx.

Balneum vaporis post vasesectionem.

Opii gr. i. 4tis horis.

15th. Blood drawn not buffed or cupped; pulse very weak, almost imperceptible; pains have ceased in the limbs; has taken a draught with acetatis morphiæ gr. i., from which she appeared greatly relieved.

Mortification proceeding rapidly in the left leg.

Rep. H. c morphiæ acet.

16th. Pulse rather stronger; mortification proceeding in both legs; no pain.

Died at a quarter past 10 o'clock.

Post mortem examination on the 18th.

The cuticle over the instep and ankle had been raised into vesicles; the skin beneath being very dark-coloured, and the integuments of the legs generally (especially of the left) had the stained and mottled-brown appearance of incipient sphacelation. The heart was very large and flabby, rather more than the usual quantity of fluid in the pericardium. The mitral valve was thickened, and its chordæ tendineæ unusually short, and the curved columnæ very much increased in bulk, but so

contracted as by their further contraction, under action, materially to have interfered with the function of the valve. There was a considerable semi-cartilaginous deposit of very irregular form beneath the serous lining of the left ventricle, near its upper part or base, at the junction of ventricle and auricle. The lungs, with the exception of slight adhesions, were unusually healthy in structure.

The artery from the common iliac to the popliteal space in the left leg was much stained with the colouring matter of the blood, and appeared to be much congested, and its vasa vasorum were extremely injected. The veins were quite healthy—the right leg was not examined, as the mortification had advanced in a less degree in that extremity.

The above-mentioned cases may be considered rare, as three only have occurred in the extensive observation of a physician to several institutions.

They are not to be considered as arising from palsy, inasmuch as in two out of three cases the brain was entirely unaffected on examination; in the third it was not examined, for there was no delirium, the senses were entire, the power of motion in the affected limbs was not altered, and the sensibility most materially increased.

Neither can they be compared with cases of mortification of the lower extremities, with vesication, in anasarca from disease of the heart. In such cases, the disease comes on after protracted illness, either in the last days of life or after erysipelas of the lower extremities. In the examples mentioned there was no dropsy; the attack of pain was *instantaneous*, as if the limbs were deprived of the due supply of blood suddenly and decisively.

A remarkable case of tape-worm, (*tinea lata*) was among the chronic cases. The patient passes at stool every day joints of this animal, usually more than fifty, occasionally five or six are joined together, but more commonly they are separately. During the last two months she must have passed several thousand joints of about nearly half

an inch in length. Her general health is good, but she complains of a dragging pain in the left side and round the umbilicus: but she has not become thin or pale.

The remedy employed, and which has never failed to bring away these broken pieces of the worm, is the root of the male fern, (*aspidium filix mas*) half a drachm of the powder being given thrice daily, and every other day a powder of calomel, scammony and rhubarb, or half an ounce of castor-oil. Oil of turpentine has not been so effectual, and produced much sickness.

Another chronic case, that of Wm. Cannon, excited much attention. He was a man of about 50 years of age, with enormous fullness of the face and throat, suffusion of the eyes, like one threatened with apoplexy. There was much disturbance about the hearts' action, as if enlarged and dilated—no pulsation in the right wrist or arm; he had undergone the operation for popliteal aneurysm in the right leg about three years ago, and subsequently the limb was amputated.

The entire stoppage of the circulation in the left arm, together with the fact of aneurysm having occurred previously, and the disturbance in the hearts' action, suggested aneurysm of the innominata.

The patient was bled repeatedly, always with relief, and the first bleedings shewed a very strong buffy coat. He was put as far as possible in a hospital on dry diet, a practice, liable always, however, to be defeated by the patient receiving drink from his fellow patients. He suffered greatly from difficulty of swallowing, and the last two days from

cough. He expired suddenly on the 17th of September, having been one month in the hospital.

Sectio Cadaveris. The right cavity of the chest was found filled with coagulated blood, which had escaped by the bursting of an aneurysm, which occupied the origin of the aorta immediately above the semilunar valves, but did not implicate the three great vessels.

The cyst adhered to the superior lobe of the right lung, and had, as it were, buried itself in its substance, to which it was intimately united. It contained some loose and partially adherent, but no distinct laminated coagulum. It had given way on the outer side, and the blood had been poured through a small part of the substance of the upper lobe of the lung, and through a rent in the pleura stretching across the interlobular fissure, into the pleural cavity.

The coats of the aorta were much diseased. The middle coat was the seat of abundant atheromatous deposits, and the internal coat was to all appearance destroyed in the aneurysmal pouch.

At the orifice of the right subclavian artery the inner coat had been dissected, as it were, from the middle, and formed a very decided valve, which must necessarily have been thrown up at each systole of the heart. This, of course, prevented the free ingress of blood into the artery, and accounted for the absence of a pulse at the right wrist.

The heart itself was large, and its cavities dilated. But its walls could not be said to be unnaturally thick.

MISCELLANIES.

BRITISH ASSOCIATION.

The great and flourishing port of Liverpool had this year the honour and the pleasure of receiving the BRITISH ASSOCIATION during its seventh Anniversary—and we might say *JURILEE*. Nearly two thousand annual members entered between the 11th and 15th September—the largest assemblage, by at least 500, that has yet been collected of scientific and literary men, since the formation of the Institution. It is not for us to speak of any but the medical section; yet we may just observe, en passant, that the *intellectual* banquet at the different sections, from 11 till 3 o'clock, every day, was equalled, at least, by the sumptuous repast spread out at five o'clock, for the physical appetite.—Turtle soup, venison, game, and several wines, with various ceteras, disappeared as if by magic, from before 600 scavans! It seemed as though the exercise of the intellect in the mornings had wonderfully improved the digestion in the afternoons; and that the labourers among trap, and gneiss, and granite changed their occupations, with infinite delight, into mining among sirloins, turkies, grouse, and hams, at Lucas's rooms, from 5 till 7 o'clock. At 8 o'clock the Amphitheatre or the Town-hall became the theatres of reunion, where a multitude, composed of many thousands, male and female, assembled to hear lectures and speeches, in the former locality, and enjoy conversation and ices in the magnificent suite of rooms belonging to the corporation at the Town-hall.

The geological section always presented the greatest crowd of auditors. It is evident that old mother Earth—our parent and executioner—our cradle and sepulchre—attracts more attention, at this moment than any other subject of investigation. The secrets of the prison-house are coming out, and the graves of countless myriads of generations are being opened to the view of man. In these, the last of created beings—man himself—sees the remains

of animals and plants that existed millions of millions of years before he saw the light of sun or moon.

The medical section, during the first two days, was not so well attended as we expected. We hoped to have seen most of the distinguished practitioners of Liverpool, Manchester, and Birmingham there, especially as the rail-road has now annihilated space between those great towns. but we were much disappointed. Papers were sometimes read almost to empty benches, and it was only for an hour or two each day that any considerable number of medical men were collected together in their own section!

Dr. Williams opened the business by reading the report of the London committee appointed to investigate the cause of the sounds of the heart, in health and disease. The committee has come to the conclusion that the first sound is caused by the contraction of the ventricle itself—and the second by the reflux of blood against the semilunar valves. This is probably the truth. With respect to the abnormal sounds, the conclusion is that wherever we have the *bruit de scie*, *bruit de soufflet*, &c. there is some narrowing of the vessels or disease of the valves, offering obstruction, more or less, to the free transmission of blood from the heart along the arteries. Experiments were shewn in illustration, where jets or currents of water were thrown through gum-elastic tubes, and where pressure on the sides of the tubes produced (according to the degree) a close imitation of all the different bruits which we hear in diseases of the heart or great vessels. Although the principle was acknowledged, yet it was doubted whether considerable excitement of the circulation, mental or muscular, might not sometimes produce a bellows sound, which bruit disappeared when the circulation became tranquil. To this last opinion we ourselves subscribe, for reasons grounded on observation. Dr. Williams, however, would not admit that any excitement of the circulation

could produce the bruit, unless some mechanical impediment was presented to the current of blood.

A very able paper on the physical appearances and chemical properties of pus was read by Mr. Brett, and excited much attention and approbation. For the particulars we refer to the account copied from the *Athenæum*, which presents a very fair account of the proceedings of this as well as of the other sections.

A demonstration or lecture by Dr. Macintosh, on the pathology and treatment of dysmennorrhœa, was listened to by a large audience, with excessive interest. As the non-professional journals could not, of course, give any detailed account of this demonstration, we shall be somewhat more particular than usual on this subject. Dr. M. laid on the table at least a score of uteri, all presenting morbid contraction or stricture of the os uteri, in a greater or less degree. Some of them were all but closed—some would scarcely admit a pig's bristle, and all were abnormally contracted. With the history of most of the cases he had been acquainted, and they all laboured under painful, and generally speaking, scanty menstruation. This contraction of a natural aperture he regarded as the result of some inflammatory action in the parts themselves or in their vicinity, more frequently than of any other cause. The straining of the uterus to get rid of the secreted menses, might explain all or most of the phenomena of dysmennorrhœa. The treatment, independently of constitutional means, consisted chiefly in removing inflammation, by the application of leeches (through the medium of a tube) to the os uteri itself—and where chronic contraction obtained, to introduce metallic bougies till proper dilatation was procured. He related several most important and interesting cases in illustration. The patients were chiefly dispensary patients; but afterwards he began to have private practice in the complaint, especially among the wives, daughters, and relations of medical men. It was objected that such operations would not be submitted to by English females. But Dr.

M. triumphantly replied that he never *urged*—seldom indeed *proposed* the operation. He explained to the parties the nature of the disorder, and the remedy which he had sometimes found successful; but recommended the patients to try all other means, and, if they pleased, other practitioners, for the cure of their maladies. After a time, the patients themselves or their friends would propose the operation, which he always refused to do, till ardently solicited to do so. In this way he steered clear of all scandal.

Sir James Murray, of Dublin, exhibited his apparatus for the removal of atmospheric pressure from the whole or any part of the body—and also for the application of increased pressure to any particular portion of the body's surface. The demonstration was given with such humour and good nature—with so much of the "*utile et dulce*," that a large audience was delighted and instructed by the lecture. The author was greeted at the end with rounds of applause. But we shall now extract from the *Athenæum* a condensed account of the transactions of the medical section.

SECTION E.—ANATOMY AND MEDICINE.

President—WILLIAM CLARK, M.D.

Vice Presidents—JAMES CARSON, M.D. F.R.S., PETER MARK ROGET, M.D., Sec. R.S., ROBERT BICKERSTETH, Esq. PROFESSOR R. T. EVANSON, M.D. M.R.I.A.

Secretaries—JAMES CARSON, jun. M.D. J. R. W. VOSS, M.D.

Committee—NEIL ARNOTT, M.D. F.R.S., RICHARD BRIGHT, M.D. F.R.S., HUGH CARLISE, M.D., JAMES COPLAND, M.D. F.R.S., PROFESSOR RICHARD T. EVANSON, M.D. M.R.I.A., RICHARD FORMBY, M.D., AUGUSTUS B. GRANVILLE, M.D. F.R.S., JOHN HOUSTON, M.D. M.R.I.A., JAMES JOHNSON, M.D., JAMES MACARTHEY, M.D. F.R.S., CHARLES HERBERT ORPEN, M.D., WILLIAM HENRY PORTER, Esq., CHARLES B. WILLIAMS, M.D. F.R.S., JOHN YELLOLY, M.D. F.R.S.

Dr. Roget stated that he presided on this occasion, owing to the absence of

Professor Clark, whose arrival was expected.

The second report of the Sub-Committee, appointed by the Association to investigate the Motions and Sounds of the Heart, was read by Dr. Charles Williams.

Before describing their last investigations, the Committee stated that they had found frequent opportunities of confirming the conclusions of their former researches on the natural sounds of the heart; and these conclusions not having been shaken by any subsequent experiment, or well founded objection, the committee consider them established; viz., that the first sound of the heart is *essentially* caused by the sudden and forcible tightening of the muscular fibres of the ventricles when they contract; and that the second sound essentially depends on the reaction of the arterial columns of blood on the semilunar valves of the arterial orifices, at the moment of the ventricular diastole. Certain other circumstances were stated, as being capable of adding to, or modifying these sounds.

The chief subjects of their present inquiry were, the unnatural, or morbid sounds, sometimes heard in the heart and arteries; and in investigating the causes of these sounds, which Laennec compared to blowing, filing, sawing, purring and cooing, or musical sounds, they sought to determine, 1st, What is the essential physical cause of these sounds; and 2nd, In what manner disease can develop this physical cause—a correct answer to these inquiries would determine the value of these sounds as signs of disease.

The Committee found that they could produce precisely the same sounds in every variety, by impelling, in various modes and degrees, a current of water through India-rubber tubes; and by numerous experiments, they ascertained the relations which the character of these sounds bore to the nature of the impediment, and to the force of the current. They obtained similar results on experimenting on the arteries of living animals; and discovered, that in the human subject the same sounds may be produced by simple pressure, not only

in the arteries, but in the veins also. They found that the sounds heard in the neck, described by some eminent French writers under the names, "*bruit de diable*" and "*bruit de mouche*," as signs of a particular morbid condition, which requires the use of certain remedies, may be produced at will, by the pressure of the stethoscope on the jugular veins of the healthiest persons, and is therefore not necessarily a sign of disease, but has probably been accidentally caused by the same pressure in many cases in which it has been considered as a morbid sign.

The Committee conclude, in answer to the first inquiry, that a certain resistance to a moving current is the essential physical cause of all the various sounds in question, and that this resistance is generally given by some pressure on, or impediment in, the tube through which the current moves; but that sometimes the resistance is caused by a change in the direction of the current, by which it is made to impinge on the walls of the vessel which contains it.

The second inquiry the Committee think can be fully answered only by extensive clinical and pathological observation, with due regard to the previous investigations; but they have planned some experiments, that promise to elucidate certain obscure points of the pathology and diagnosis of diseases of the heart and arteries, the knowledge of which would be of direct practical advantage. These points the Committee propose to investigate, if the Association think fit to re-appoint them to this office.

The thanks of the Section were voted to the Sub-Committee, and the members were requested to continue their labours.

Dr. Copland said, the Report stated that the heart beat after the cessation of respiration, which he believed, for the heart was the *ultima moriens*.—Dr. Carlisle concurred with the Report in its general view as to the cause of the sounds of the circulation in tubes from obstruction to the course of the fluid current, but differed from them on the explanation of the systolic sound, which

in his opinion, was owing to resistance from the irregularities of the heart's surface. The heart, in these cases, was *ultima moriens*, and would act, though it contained no blood, contrary to Bichat's opinion.—Dr. Granville could confirm from his experiments with poison, chiefly prussic acid, the solitary instance adduced by Dr. Williams, of the beating of the heart on the cessation of respiration, and that it continued its action, though without blood. He found, and five other gentlemen were present timing with their watches, that in seven experiments on animals made in London, the fibres of the heart were alive after the death of the lungs (i. e. if life could be pronounced from dilatation and contraction)—in one case five minutes, in a second eight minutes in a third eleven minutes; and on touching with a scalpel to a much longer period; and in this case not a drop of blood was contained in the heart. The action was not owing to blood or fluid, but was merely mechanical; and it was found, in dogs and cats destroyed by prussic acid, that, on opening the cavity of the chest and abdomen simultaneously, respiration had ceased, the lungs were collapsed, but the heart beat, and the intestines acted peristaltically. The heart, as a muscle, does most certainly survive respiration, and is the *ultima moriens*.

Dr. Johnson said the Report concluded that all abnormal sounds were indicative of disease or morbid obstruction; from which he must dissent. He believed the excess of the velocity of the circulating fluid was sufficient to account for it, without the supposition of any obstruction from morbid contractions, and other impediments in the arterial tubes. He was himself, an instance of the truth of this: for when his circulation was increased, either by excitement, food, or running, he had heard these sounds in himself, and he had equally verified it by observations on others; he could not, therefore, consider these sounds as certainly abnormal. He would ask Dr. Williams, if a trial had been made of the effect of velocity of fluids through tubes with the view of ascertaining sounds?—he would ask, if sound was produced at the ex-

tremity of the vessel, why it is not heard in the diastole of it, the blood issuing, as some say, in jets, or from reflux?—Dr. Williams stated, in answer, first, that the Committee had examined this subject physically, when they found some contraction, or obstruction, or bend, was necessary for the production of the murmur and other sounds; but that they had not entirely sifted the physiological part of the subject, though he believed that their physical labours were fully applicable to it. To have sounds in currents, there must be some resistance, as friction. In the natural condition of the vessel, this increased velocity of Dr. Johnson's might create friction, from want of dilatation causing the murmuring sounds; and he would certainly recommend Dr. Johnson and his friends not to repeat their experiments frequently—at least, on themselves. To Dr. Johnson's second question—why is their not sound in a continuous current?—it would depend on the pressure; according to its degree, so would be the sound—if considerable, the *bruit de diable*. He now wished to refer to the objections of Dr. Carlisle. In last year's Report, they attributed the essential sounds of the heart, to the muscular action of the heart, not to the blood; for they found the sounds perceptible, but in a diminished degree, without blood. In answer to the question, why the sounds of the heart should differ from those of the artery, he should say, the motion of the heart was only commencing, had not yet acquired momentum, and the blood was expanded over a large surface—that the ventricle contracted towards a centre, which was the artery—and that there was very little friction on the internal surface of the heart, though he could not tell how much to attribute to the *Carnea columæ* alluded to by Dr. Carlisle; but if examined, they would see very little irregularity where the blood converged, the principle being towards the bottom. The blood ran with a different momentum in the arteries than it did in the heart, being only about three inches in half a second, and the slightest obstruction must, therefore, oppose it,

while in the heart the blood moved as the muscle of the heart contracted, and other obstructions moved. As to the character of the sounds, they resembled those of natural objects, and the natural differed from the morbid. The natural was a dumb percussive sort of sound, the morbid was whizzing, giving an idea of friction—sling, sawing, rushing, and so on, which an accustomed ear could distinguish with precision.—Dr. Williams replied to a question asked by Dr. Granville, that the general result of their investigations led to the conclusion that velocities of motion did not alone produce sound; there must be some obstruction, some resistance.

Mr. Brett then read a paper 'On the Physical and Chemical characters of Expectoration in different Diseases of the Lungs, with some Preliminary Remarks on the Albuminous Principles existing in the Blood.'

The remarks on the blood referred more particularly to a general view of the albuminous principles existing in that fluid. The simplest view which could be taken of the vital fluid, is that which refers its constitution to a mixture of fluid, or soluble, and insoluble albumen, —the one constituting what is termed the serum, the other the crassamentum, or cruor. The author of the paper then proceeded to relate the different opinions which had been published on the specific gravity of the blood, quoting the statements of Berzelius, Gmelin, Dumas, and other chemical philosophers of distinction; at the same time remarking, that all these statements did not differ materially from each other, and might be considered as depending upon the fact, that the specific gravity of the blood might differ slightly, not only in different individuals, but in the same individual at different times. He then noticed the different modifications of albumen existing in the serum, which he divided into three forms:—1st, Soluble or free albumen, capable of undergoing coagulation by heat; 2ndly, Albumen in combination with a basic body, viz. soda; and, 3rdly, A form of albuminous matter, which he termed the colourless self-coagulating albuminous principle.

The crassamentum, as it is commonly called, of the blood, he also considered as made up of more than one form of *solid albuminous matter*; viz. of solid albumen capable of undergoing decoloration by ablution with water, and of solid albumen incapable of being decolorated by the same process; the former being insoluble, and constituting what is commonly understood under the name of fibrine, the latter soluble in water, and frequently designated red particles or *hæmatosine*. Some remarks then followed on the microscopic examination of the blood, and on the different forms of the globules in different animals. The author then proceeded to detail the various physical characters of the expectoration in the healthy condition of the lungs, as well as in its varied morbid states. The physical characters of saliva were entered upon, and the globularity of its opaque portions alluded to. The physical characters of expectoration in the pituitous catarrh of Laennec were then detailed; also those of the expectoration in acute and chronic bronchitis—in hæmoptysis, or pulmonary apoplexy—in pneumonia—and lastly, in different stages of phthisis. The chemical characters of these different modifications of expectoration were then fully treated of, and reference made to a tabular arrangement which the author had embodied in his papers, exhibiting the action of certain re-agents—first, on saliva, and then on the different forms of sputa, the physical characters of which had been already fully noticed. It was remarked, that saliva did not contain any soluble albumen capable of undergoing coagulation by heat; neither did it contain any solid albuminous matter, the main bulk of the solid contents of that secretion being mucous. The mode of analysis adopted, was, to deject saliva in cold water, and then subject the filtered fluid to the action of certain re-agents; another portion of saliva was then dissolved in a caustic alkali, and the alkaline solution subjected to the agency of certain tests. The quantity of solid matter in a given weight of saliva was also announced, as well as the saline matters, and their chemical nature stated: dif-

ferent authorities bearing on the subject were quoted, especially the statements of Berzelius and L. Gmelin. The chemical characters of expectoration in pituitous catarrh were then described, and a mode of analysis was stated to have been adopted, analogous to that employed in the case of saliva: this modification of sputum was regarded as purely mucus, possessing no albuminous matter; it was found to contain a very small proportion of solid matter in a given weight, but the quantity of saline matter was found to be considerable, when compared with the quantity of solid matter; and this saline matter the author's experiments lead him to conclude was diminished in quantity as the disease progressed. The chemical nature of sputum of the acute and chronic bronchitic character was then entered upon, and noticed as differing in certain respects from the preceding form of expectorated matter, in contracting, for example, a much larger proportion of solid matter in a given weight than was found in simple pituitous expectoration, and generally a smaller proportion of saline matter; it also differed in containing, generally speaking, small quantities of soluble albumen capable of undergoing coagulation by heat.

Pneumonic expectoration was then treated of, and noticed as principally made up of a tough mucoid secretion intermixed with blood, to which last was owing its peculiar rust or brick-red colour, and also its powers of undergoing, to a certain extent, coagulation by heat when mixed with water and filtered; it was also found to differ from most other forms of expectorated matter, in containing no inconsiderable quantity of oxide of iron, derivable from the blood with which it is impregnated. Phthisical expectoration was the last form of sputum, the chemical characters of which were described. It was noticed as differing materially in different stages of the disease; in the earlier and middle stages scarcely not at all; for the most part, at least, differing from the expectoration met with in chronic or acute bronchitic affections: in the latter stages, however, not un-

frequently possessing the characters of a simple collection of puriform matter, containing very large quantities both of soluble and solid or insoluble albumen, much solid matter also in a given weight, with the ordinary saline matters found in other varieties of sputa, superadded to which was a notable proportion of oxide of iron. It was stated, that in no disease, except phthisis, did the expectoration contain so much soluble albumen capable of undergoing coagulation by heat; and also in no disease, except pneumonia, was there so large a proportion of solid matter in a given weight of the expectoration: this observation referring, however, to the sputum in the latter stages of phthisis, where it puts on the character of a collection of puriform matter. Allusion was then made to the fatty matter existing in expectorated fluids, which was found to be the same in quality in almost every variety of sputum, but differing in quantity, being much greater in quantity in well-marked phthisical expectoration than in any other variety. The fatty matter was peculiar, too, from the high temperature which it required for its fusion, it being considerably higher than that necessary for the fusion of the more ordinary forms of fatty matter, and even higher than that required for cholesterine: this fatty matter was soluble in alcohol and ether, being deposited from the former when its boiling solution cooled. The author also referred to the power which a galvanic current, even of low intensity, possessed of coagulating the aqueous fluid, obtained either by digesting saliva, or any of the modifications of expectorated matter before alluded to, in water, and filtering the fluid. This coagulation was not regarded by the author as proving the presence of albumen, because, in cases in which the galvanic current effected the change in question, the most delicate re-agents with which chemists are acquainted for the detection of albumen, failed to detect the slightest trace. The author then detailed his experiments on crude and softened tuberculous matter; he submitted the former to the action of the

same re-agents as he employed to react upon ordinary fibrine, and was led to conclude that the crude tubercle did not differ chemically from solid albumen or fibrinous matters. The mode of analysis employed in examining the crude and softened tubercle was the following—it may be observed, that the crude tubercle was examined side by side with ordinary fibrine: the crude tubercle was dissolved in a weak solution of caustic potass; a similar solution of fibrinous matter was obtained, and both submitted to the action of the same re-agents, with results as nearly similar as possible. The agents employed were the mineral acids, acetic acid, and ferrocyanide of potassium, tinct. galls, corrosive sublimate, &c. The softened tuberculous matter was first dejected in water, and then filtered; the filtered fluid, when submitted to re-agents, was found to contain soluble albumen; that portion of the tubercle insoluble in water, was dejected in a weak alkaline fluid, by which a solution was obtained. This alkaline solution, when submitted to the necessary re-agents, indicated the existence of solid albuminous matter or fibrine; hence the softened tubercle was regarded as analogous in its chemical characters to purulent matter. Experiments were then made on the tuberculous matter which had undergone perfect softening and the result was, that the latter was chemically identical with pus; from which it was deduced, that fibrinous matter was, by a process of softening or fluidfaction, converted into actual pus and hence a fruitful source of the abundantly albuminous fluid found in the expectoration of patients in the latter stage of phthisical disease. The author then concluded his paper, by stating the results of a quantitative analysis of the expectoration of a marked puriform character, obtained from a patient in the last stage of phthisis. It was found to consist of—water; albuminous matter, with a little mucus; extractives, soluble in alcohol; ditto, soluble in water; fatty matter; saline matters, consisting of the alkaline chlorides, phosphates and carbonates, with earthy phosphates and oxide of iron.

Dr. Williams expressed his gratification that the labours of so expert a chemist had been directed to so important a branch of science as animal chemistry, which had been strangely neglected, and almost overlooked. This he lamented the more, since the subject would promote both the theory and practice of medicine. He would, however, ask Mr. Brett if he had observed in his microscopical experiments in early phthisis, what the French had detected in the sputa, a sort of downy substance, peculiar to the very early stages of this disease, and only observable through the microscope; indeed it was a microscopic phenomenon. It was a novelty to him, that tubercles by softening, as mentioned by Mr. Brett, assumed globular forms of which they were devoid at the commencement, a fact confirmed by Gmelin. This paper pleased him, for it further assured him of the truth he had taught, that softening was a modification of suppuration, a conversion of albumen into pus. There was a total absence of organization in tubercle. Mr. Brett had not observed the microscopical flocculent and woolly appearance, for his attention had not been so directed. Dr. Williams explained, that it did not resemble flocculi, but was, he considered, a microscopical appearance only. Mr. Brett had made his microscopical observations on what was obvious to the naked eye, and opaque portions of these secretions he found to be globular, not so perfect in cheesy suppurations as in those of other characters. Mr. Williams enquired what was the opaque compound in saliva. Mr. Brett answered, it might be a modification of albumen, but he could not say exactly. Dr. Roget remarked, that the paper made it appear that the formation of globular inexpectated matter was spontaneous. Dr. Williams stated, that the belief of this sort of globular formation might be supported by the circumstance of its production in serum after it had been some time at rest, which had been shewn by Dumas and Sir Everard Home. Mr. Brett did not consider the cases parallel, since serum was highly albuminous, and this expect-

toration not. Dr. Johnson thought, that, independently of the chemical acumen, the paper would be of value to practitioners, on account of the physical character of expectorated matter, of which there were three modifications: 1st, Mucus; from intensity of disease in the bronchia; 2nd, Tuberculous matter softened down, and escaping into the bronchial tubes, or entirely discharging from them; 3rd, Secretion of purulent matter from excavated surfaces, scarcely distinguishable from the matter of abscess, or the after-discharge from the *dépôt*, by which he meant the matter secreted after the first contents of an abscess had been discharged. Mr. Golding Bird, after alluding to Mr. Brett's experiments, and drawing the attention of the Section to those parts which particularly merited the attention of practitioners, offered a suggestion, in explanation of the circumstances mentioned by Mr. Brett, in which mucus, previously limpid, became opaque, and deposited globular masses of albumen, after a few hours' exposure to the air; as well as of the fact alluded to by Dr. Williams, viz. the circumstance of serum of blood becoming opaque, and depositing globules by exposure. The rationale of these two facts Mr. Bird conceived might depend upon the action of carbonic acid upon albumen, and upon alkaline albuminates, first pointed out by him in a series of papers published in the *Philosophical Magazine*. In the case of mucus, he believed that a notable portion of albumen was present, held in solution by carbonic acid, and that, by exposure to air, or to an atmosphere of hydrogen, this solvent was abstracted in an exceedingly gradual manner, in consequence of which, albumen was deposited in the form of rounded particles. In the case of serum, the converse Mr. Bird believed to take place; for, as Mr. Brett has shewn in his paper, this fluid to contain, independent of free albumen, a small portion of albuminate of soda, it appeared reasonable to suppose that the carbonic acid present in the atmosphere acted on, and decomposed this compound, forming carbonate of soda, and causing the deposition of albumen in a globular

form. This hypothesis, moreover, serves to explain the fact of serum, previously neutral, becoming alkaline after a few hours' exposure, for the albuminate of soda previously existing, is without action on test papers, whilst the carbonate of soda, produced in the manner above mentioned, is fully capable of producing an alkaline effect on turmeric paper. The explanation is in direct accordance with the experiments related in the *Philosophical Magazine*, before alluded to.

Dr. Carson in the chair.—Dr. Holland read a paper "On the cause of Death from a blow on the Stomach, with remarks on the means best calculated to restore animation suspended by such accident."

The writer commenced by stating, that the occurrence of death from a blow on the stomach has never received any full or satisfactory consideration. It is cursorily alluded to in treatises in which cases of sudden death, from a supposed impression made upon the nervous system, are discussed; and it is mentioned in this connexion, from being imagined to depend on the same mysterious cause. The cause of death from a blow on the stomach is referred to a shock communicated to the nervous system, by which the action of this organ is arrested. The primary impression is considered, by some, to be made upon the semi-lunar ganglion. The situation which this occupies, and not any peculiarly intimate connexion which it has with the heart, has suggested this explanation. Were it unequivocally shewn that the heart derives its contractile power from this ganglion, and that this is injured, or in any way affected by the blow, cause and effect would be too indissolubly united to admit of dispute. No one has, however, shewn that the heart receives its nervous energy from such source, nor are there any facts demonstrating that this ganglion is injured, or its functions disordered by a blow. No distinct evidence is, indeed, presented, proving that this occurs; writers on this subject speak only of suspended or deranged nervous action, and the effects of a shock on the nervous system.

The circumstances which have led to the adoption of the prevailing notion may, perhaps, be reduced to three:—

1. Situation of the ganglion. 2. The spot where the blow is received. 3. And the consequent fatal effect. These circumstances are the only reasons adduced; and yet, without other corroborating facts, they are scarcely deserving of notice. If the plexus or semilunar ganglion be considered as a centre of nervous energy, this does not supply the heart or chest generally, but, indeed, the aorta and abdominal viscera: and hence a blow on the pit of the stomach, were its effects transmitted directly through the nervous system to the organ supplied by it, would be more likely to disturb the functions of these viscera than the action of the heart. It is not unphilosophical to contend, that an injury inflicted on this centre will disturb the organs dependent upon it; but the heart receives nervous influence from the brain, spinal cord, and sympathetic nerve, previous to the formation of the lunar plexus, or ganglion; and, therefore, if affected through either, it cannot be explained to depend on the deprivation of nervous fluid, but on the transmission of an impression or undulation.

In entering upon this inquiry, the first step was to determine the important organs peculiarly liable, from their situation and functions, to be deranged by a blow on the stomach. Those were the aorta and vena cava ascendens. The pit of the stomach is unquestionably the situation where these large and important vessels are alone liable to severe functional derangement from a blow. Above this point they are securely protected by the parietes of the chest, and below it by the mass of abdominal viscera. A blow in this situation has necessarily a tendency, whether it strike the artery or the vein, to urge the circulating fluid towards the heart. Nature, by means of the semilunar valves, has prevented the frequent occurrence of such an accident; but the violence of the blow is quite sufficient to overcome this obstacle or barrier to the retrograde motion of the blood. The fatal result is to be referred to the sudden propulsion of arterial fluid into

the left ventricle, and not to the greater force with which the venous blood may possibly be returned to its destination. In discussing this subject, there are three points to which especial attention should be given: 1st. Is the aorta so situated as likely to be influenced in the manner stated? 2ndly. Would a blow, given with great violence, cause a retrograde motion of blood, and its entrance into the left ventricle? 3rdly. Would the latter circumstance be sufficient to cause death?

The latter part of the paper was occupied in endeavouring to establish the principles laid down; shewing, that death from a blow on the stomach is not, as has always been considered, referable to any injury or impression made on the nervous system.

Dr. Copland required an explanation of three questions. Had Dr. Holland observed the morbid appearances after death from blows of the stomach? 2ndly, Is it possible to produce the retrograde motion of the blood from the part of the artery impinged to the heart without rupturing the semilunar valves? 3rd, Had Dr. Holland much experience of the treatment?

Dr. Holland knew that his views admitted of discussion and of objection, since they differed so widely from the received notions. He had only observed one case, and it was fatal. The post mortem examination shewed a florid appearance of the mucous membrane of the stomach, especially at the pit, not unlike what is observed during digestion. The blood was fluid. With regard to the rupture of the valves, he could present no facts; but, in his opinion, the valves would not be seriously injured, and failure in resuscitation could not be attributable to the state of the valves.—Dr. Copland had not himself witnessed the morbid appearances of sudden death from a blow on the stomach, but several such were on record, which were sufficient to shew the influence of the ganglionic nerves. He thought retrogradation of the blood's current, as mentioned by Dr. Holland, could not take place without a rupture of the valves, or even of the heart itself. The heart could be injured in these cases physically, from

the diaphragm as well as the vessels; but, in considering this kind of death, we are not to attribute its cause to any part of the body singly, but to take a comprehensive view, and to take in the whole collectively—the respiration—circulation—epigastrium—ciliary plexuses of nerves—though one might be more injured than another.—Dr. Johnson had had his attention directed to this subject from an early age. At school there was a boy a great pugilist, who, in his rencontres, gave what he called his heart-ing, meaning a blow over the region of the heart. The first, and principal effects, were a sudden suspension of respiration, which was relieved and followed by gasping; the heart, oppressed, did not cease its action, for, if it did, deliquium animi would ensue: the pain was very peculiar. He agreed with Dr. Copland as to the cause of death in these cases, and could not conceive that a forcible impression of the aorta could throw the blood back, and force the valves; for in dead bodies this was difficult, though the valves then perhaps were more flaccid; and here it was said to occur to the living—being still more difficult.—Sir James Murray had seen two cases of suspended animation from blows on the stomach; one recovered, and the other died. The remedy he should recommend, would be to throw a bucket of cold water over the body—gasping would ensue, and respiration follow. He could not agree with Dr. Holland, more especially when he considered the slight influence the small quantity of forced blood would exert. A space of the artery, equal at most to about two inches, would be struck—the blood contained in one inch would be distributed downwards through the iliac arteries to the extremities, where space enough was found; and the other inch of blood sent upwards, would find a much greater space through all the vessels of the chest and upper extremities. He would not deny that an inch of blood above the healthy quantity suddenly propelled into the heart might injure that organ, but thought there was not enough to injure the heart and vessels, as they must be, from sudden violent blows on the sto-

mach.—Dr. Williams had not read any author who gave a satisfactory account of the effects of blows on the stomach, but he agreed in opinion with Dr. Copland. He had paid particular attention to the semilunar valves, and must differ from Dr. Johnson. They are perfectly mechanical, and act in the dead as in the living bodies. They completely stop all entrance to the heart, and must be ruptured for entrance there. Dr. Williams then alluded to death from syncope, by poisons, crushing of the limb, ingestion of cold water,—and concluded by recommending treatment by diffusible stimuli.

Dr. John Reid then gave an account of an experimental investigation into the Glosso-pharyngeal, Pneumogastric, and Spinal accessory Nerves. This communication was stated by Dr. Reid to contain merely a short epitome of some lengthened remarks, which he had drawn up on this subject; but it embraced the principal results, deduced from the numerous experiments which he had performed upon those complicated and important nerves, generally included under the eighth pair.

Glosso-pharyngeal Nerve.—The experiments on this nerve were all performed on dogs, and were 27 in number. Seventeen of these were for the purpose of ascertaining if it was to be considered a nerve both of sensation and motion, and what were the effects of its section upon the associated movements of deglutition, and on the sense of taste. The other ten were performed on animals immediately after they had been deprived of sensation, with the view of ascertaining more accurately how far it is to be considered a motor nerve. The phenomena observed in these experiments were first stated; and the conclusions drawn from a review of the whole of the data thus obtained were these:—first, that this is a nerve of common sensation; second, that mechanical and chemical irritation of this nerve before it has given off its pharyngeal branches, or of any of those branches individually, is followed by extensive muscular movements of the throat and lower part of the face; third, that the muscular movements thus excited depend, not upon any influence

extending along the branches of the nerve to the muscles moved, but upon a reflex action, transmitted through the central organs of the nervous system; fourth, that these pharyngeal branches of the glosso-pharyngeal nerve possess endowments connected with the peculiar sensations of the mucous membrane, upon which they are distributed, though he cannot pretend to say positively in what these consist: fifth, that this cannot be the sole nerve upon which all these sensations depend, since the perfect division of the trunk on both sides, with removal of a considerable part of it (if care be taken to exclude the pharyngeal branch of the par vagum, which lies in close contact with it), does not interfere with the perfect performance of the function of deglutition; sixth, that mechanical or chemical irritation of the nerve, immediately after an animal has been killed, is not followed by any muscular movements, provided care be taken to insulate it from the pharyngeal branch of the par vagum: seventh, that the sense of taste is sufficiently acute after the perfect section of the nerve on both sides, to enable the animal readily to recognize bitter substances; eighth, that it may probably participate with other nerves in the performance of the function of the sense of taste, but it certainly is not the special nerve of that sense; ninth, that the sense of thirst does not depend entirely upon this nerve.

Pneumogastric, or Par Vagus Nerve.—From the result of 30 experiments on this nerve, he is satisfied that severe indications of suffering are generally induced by pinching, cutting, or even stretching this nerve. Powerful respiratory movements were excited in some of the animals, when the trunk of the nerve was compressed for a few moments by the forceps.

Pharyngeal Branches of the Par Vagus—From 17 experiments performed on dogs, either when alive, or immediately after being deprived of sensation he concludes, that these are the sole motor nerves of the constrictors of the pharynx, the stylo-pharyngeal and palatine muscles; and that the sensitive filaments contained in these branches of the par vagum are exceedingly few,

if under ordinary circumstances they exist at all.

Pharyngeal Branches of the Par Vagus.—From his experiments on these nerves, repeated and confirmed in various ways, he concludes, that all the muscles which move the arytenoid cartilages, receive their motor filaments from the inferior laryngeal or recurrent nerves. That one only of the intrinsic muscles of the larynx receives its motor filaments from the superior laryngeal, viz. the crico-thyroid muscle, and that consequently, the only change which this nerve can produce upon the larynx as a motor nerve is, that of approximating the cricoid cartilage to the thyroid,—in other words, of shortening the larynx; and that the sensations of the larynx depend upon the superior laryngeal nerve. These experiments are completely subversive of the statement of Majendie, that the inferior laryngeal nerves supply those muscles only which open the glottis, while the superior supply those muscles which shorten the glottis. They also illustrate in a very satisfactory manner the causes of the dyspnoea, amounting in some cases to strangulation, when the inferior laryngeal nerves are cut or compressed.

He has also satisfied himself, that when any irritation is applied to the mucous membrane of the larynx in the natural state, this does not excite the contractions of these muscles, by acting directly upon them through the mucous membrane, but that this contraction takes place by a reflex action, in the performance of which the superior laryngeal nerve is the sensitive, and the inferior laryngeal is the motor nerve. He is also convinced that the muscular contractions of the œsophagus are not called into action by the ingesta, acting directly as an excitant upon the muscular fibre, through the mucus membrane, but by a reflex action, part of the œsophageal filaments acting as sensitive, and others as motor nerves. Our space will not permit us to state any of the results obtained from the experiments on the other branches of the par vagum.

Spinal Accessory.—This nerve was cut across in seven dogs at its exit from the cranium, and no effect upon the

voluntary movements of the muscles of the neck could be observed. In other animals the nerve was first cut across on one side, and then a weak dose of prussic acid given. This was frequently followed by powerful, slow and regular respiratory movements, during some of which distinct contractions of the sternomastoid muscle were observed in unison with the other muscles of inspiration.

The next paper was entitled "Observations on the Structure of the Sacrum in Man and some of the lower classes of Animals," by Hugh Carlisle, M. B. Mr. Carlisle exhibited to the Section several anatomical preparations of the human sacrum in different states of growth, in which the separate formation of the lateral parts, consisting both of ribs and of transverse processes was distinctly shewn. The analogous structure in certain classes of reptiles were displayed by means of preparations and original drawings, and the errors of descriptive anatomists on these subjects were pointed out. Mr. Carlisle shewed that some of the saurian reptiles afford the best examples of distinct and well-developed sacral ribs, although this peculiarity in their structure has been wholly overlooked by previous anatomists. In these animals the sacral ribs are two in number on each side, the anterior being articulated to the bodies of the last dorsal and the first sacral vertebræ, and to the intervertebral fibro-cartilage, the posterior to the last sacral and the first caudal vertebræ. In the human subject the sacral ribs are four on each side, and they remain in a separate and distinguishable state until the age of from three to seven years, after which period they are all, except in rare instances, consolidated with each other and with the bodies and transverse processes of the sacral vertebræ. The os ilium in the foetal state, and for some years after birth, in the human subject, is connected to only the first two at each side of the sacral ribs, a fact which is consistent with the imperfect development, at that period, of the lower extremities, and with the disposition, at an early age, to walk on all fours, and which affords an additional example to those already

known of the similarity which prevails between the temporary forms of certain parts of the human body and the permanent dispositions of the corresponding parts in animals of a lower class. In many of the quadrumana, of quadrupeds, and of reptiles, two is the number of sacral ribs constantly in apposition with the os ilium: in the human subject, at a more advanced period of growth, the os ilium at each side is connected by a cartilaginous intermedium to the extremities of three sacral ribs, and in one instance, in the skeleton of a negro, Mr. Carlisle observed it conjoined to four. This communication was concluded by some observations on the particularities of structure exhibited in the skeletons of the *Testudo Græca* and the *Testudo Midas*, the former of which Mr. Carlisle considers to possess two sacra, one for the posterior and one for the anterior extremities; while the latter has but one sacrum belonging to the posterior extremities, and possessing a more extensive range of motion in the anterior, presents in them nearly the same mode of function to the spine which prevails in birds and some quadrupeds.

A paper was then read by Dr. Black, on the Epidemic Influenza, as it occurred at Bolton-le-Moors, in January, February, and March of this year, and which principally referred to the meteorology of the season, and to the question how far the epidemic bore upon vital statistics and mortality.

After a summary of the principal pathognomonic symptoms which characterize the disease in its more severe and fatal forms, with a short notice of *post mortem* investigations, and the treatment generally adopted, Dr. Black proceeded to say, that to the medical philosopher, the extent and intensity with which the epidemic bore upon the population of the country, along with the ratio of mortality which marked its progress, as well as the meteorological state of the weather, which preceded and accompanied its march over the kingdom, were subjects of great, and of historical interest, especially when compared with the nature and progress of former epidemics of the kind, and with the rise, abode, and intensity, in

other places, of the same epidemic. For the purpose of elucidating these important and relative matters under which the disease appeared and prevailed at Bolton, he obtained a correct register of the weather in its principal meteorological conditions, for the months of January, February, and March of this year, during which the epidemic appeared, prevailed, and decayed at that place, to which he had added a column exhibiting a scale of the epidemic's rise, maximum intensity, and decay. This column was constructed from the several lists of cases of influenza entered and kept by three of the principal practitioners of the place and himself; which entries for each day being added together, gave a ratio corresponding to 100 as the maximum intensity on the 3rd February. To this table he also added a Mortality Register of 420 burials, and therein stated the several ages and quinquennial periods, at which the individuals died, after the fifth year, with the different amounts and ratios for the late epidemic season as well as for the average of the same months during the five previous years.

[We have not space for the tables, but the following inferences from them will be sufficient for our readers.]

From the register of the weather it is seen, that during the first two weeks of January, the temperature was very irregular, varying in the mean of morning, noon, and night from $47^{\circ}.3$ to $27^{\circ}.3$, while the barometer was gradually falling from 30.27 to 29.17, and snow, hail, rain, and fair weather prevailed by turns. The epidemic, during this period, had scarcely made its appearance, and except it had subsequently done so, the few cases of suffocative catarrh and atonic bronchitis would have been attributed to an endemic and sporadic origin. With the 14th day of the month commenced a week of fair weather, and of a steadier and milder temperature; but after a very sudden rise, a declining state of the mercurial column took place, which reached its lowest depression of 28.88 on the evening of the 21st, while the dew point became nearer to the mean temperature. Contemporaneous with this lowest state of the atmospheric pressure, on the 21st commenced

the full and rapid invasion of the epidemic, similar to some mighty mortific wave, that was sweeping over the country, sudden in its attack, but more lingering on its departure. As the disease advanced, the temperature fell for seven days, with continued rain, or snow till the end of the month. The barometer on the whole gradually rose, until it attained 30.10 on the morning of the 4th of February. The previous day the epidemic had reached its maximum intensity, having, in the course of a fortnight, laid the whole population, with trifling exceptions, under its influence, which extended from the merest *malaise*, or slight catarrh, to the most deadly effect on the functions and organs of life. After this circulating point, it gradually diminished in the number of cases, though not in the severity of many individual instances; and many diseases occurred, even until March, which could be fairly attributed to the constitutional taint or diathesis, which the epidemic had produced. The invasion of the epidemic was preceded by and attended with easterly and southerly winds, while the atmosphere was much loaded with moisture. This high point of saturation may be frequently observed during the prevalence of the epidemic, for the dew point is, for several days, seen to be as high, if not higher, than the mean temperature of the day. This anomaly in part arises from the dew point being taken only once a day, at noon, while the temperature was not only taken at that hour, but at morning and night. The average of the three would therefore be sometimes below the dew point at noon.

In comparing the *mortality* of the five previous years, during the same months with that during the prevalence of the epidemic, it appeared that the increase on the whole three months was equal to 45 per cent. on the average mortality, and for the month of February alone, it was 160 per cent. Of the 420 deaths, 205 were male and 215 females, while the ordinary sexual proportion of deaths is as 109 males to 100 females. The half nearly (208 of the 420) were under 20 years of age; while the half of the deaths during the five previous years, were under three

years and ten months. 21.9 per cent. of the whole deaths enumerated during the epidemic, took place under the age of 12 months; while the average at that age, during the same months of the five previous years, was 26.6 per cent. The same proportions are observed during the second year of life. These ratios in favour of early life, during the epidemic, continue until the 30th year, when it changes to the prejudice of adult life. For instance, between the years of 45 and 49, the ratio of deaths to the whole was 6.2 per cent.; while at the corresponding ages, in the five previous years, it was only 2.7 per cent. Nearly about the same disparity obtains at the quinquennial periods of 65 and 69, and through all the advanced years of life, compared to the ordinary rate of the mortality at those periods of life, during former years.

In corroboration of the great increase of mortality during the epidemic, and of the greater extent to which it bore upon those in advanced life, Dr. B. brought forward several notices and reports that have been published since the epidemic, and especially those by Drs. Clendinning, Heberden, and Graves; and regretted that reports of the kind had not been more general, and more exact in all contemporaneous conditions of the atmosphere and of the locality affected, so that some deductions might have been made, as to the laws under which the epidemic appeared and marched over the kingdom. By observing the date of its appearance, and its culminating point at many places, the nosometrical lines might be traced over the map of a country, and even over the inhabited part of the globe itself.

Wednesday.

The first paper read was by Dr. Macintosh, "On Dysmenorrhœa." Of this, for obvious reasons, the *Athenæum* gives no account, and we must defer a full report of it to a future opportunity.

Sir James Murray then read a paper, in continuation of a former one, published in the *Dublin Medical Journal* for July, 1836. His object was to shew, that a great variety of disordered con-

ditions of the nerves, and of the vital organs, result from the presence of urinary secretions in the circulating fluids. In two cases of fatal neuralgia, one *tic douloureux* of the thumb, he found the investments of the nerves studded with microscopic crystals. The crystals had the same constituents as those sometimes observed in the sediments of urine. Crystalline frost-work has been lately observed in the heart, brain, and other organs, by Mr. George, and in the membranes of the bowels by Professors Harrison, Apjohn, and others. Great constitutional and local irritation, he considers, is sometimes created by the acrimony of saline solutions remaining in the solids and fluids of the body; and, as these extraneous substances do not amount to tangible particles and concretions, that the presence of unsaturated alkaline or acid re-agents, maintain many obstinate disorders—as hysteria, some kinds of asthma, indigestion, &c. He had detected uric acid, urea, and many other excretory substances, in obstinate sores, in discharges from the eyes, in the incrustations of *tinea capitis* and *lepra*. He also thought the tubercles deposited in the lungs, and composed of the substance called soluble extractive, animal matter of a similar kind. When this matter meets oxygen in the lungs, it is deposited in a solid state of various consistency. The various oxides it meets with in other parts of the body, render it insoluble, and it is found imbedded in many other parts, but not so frequently as in the lungs. The elements of these extraneous matters are not always separated by the kidneys, and untoward chemical combinations are frequently set up by the presence of acid or exciting atoms not duly excreted from the fluids.

He proposed to neutralize or precipitate these impregnations by baths, acid or alkaline, as were required, and to try to obtain precipitates in the urine similar to those which pass off in the crises of fevers and acute rheumatism. Sir James concluded by lamenting, that the ridicule thrown upon such examinations, by the mystical and pretended diagnoses of charlatans, had deterred medical men from examining the secre-

tions with sufficient precision; but hoped that the difficulty of this enquiry would no longer retard the investigations of such prominent signs and causes of disease.

Dr. James Johnson said, that the examinations recommended by Sir James Murray were becoming more and more common. He could not attribute the state of the body impregnated with the kinds of salts described in the paper, to the cause assigned by Sir James Murray. The cause, in his opinion, was rather a defect of action in the kidney, than absorption—not but that absorption and re-absorption of urea and uric acid would take place as described.

The secretary then read a paper by Dr. Madden, communicated by Professor Alison, being “Experiments on the connexion between Nerves and Muscles.” The author began by stating, that two different opinions on the subject of his paper were entertained—the one by Dr. Whytt, and the school of neurologists who attribute muscular motion to nerves and irritants, mechanical or chemical, which excite motions through nervous agency; and the other that the power was inherent in the muscles themselves, the nerves being only conductors. He had been in consequence induced to institute a series of experiments; and he now detailed a great number on the nerves, muscles, and heart of frogs, by galvanism, mechanical irritations, by immersion, and application of narcotic solutions, and by the internal administration, or rather putting into the mouth, of prussic acid, carefully timing the progress. These were thought to bear out the following conclusion, at which the author arrived. When we see narcotics have, by no means, a destructive influence on irritability, nor on nervous trunks, no change on muscular fibre—when we see nerves cease to excite contractions *long before* muscles themselves have lost their irritability, their number and size bearing no proportion to irritability—when we see many muscles insensible to the irritation of nerves, and that a muscle with a divided nerve can recover its exhausted irritation in so short a time, and so perfectly, we must withhold our confidence in neurology, and

believe that muscular contractility is not dependent on nervous influence.

The secretary then read a paper from Dr. O'Bryan Bellingham, “On the order of the succession of the Motions of the Heart.” On performing some experiments on frogs, his attention was directed to the order of the progressive motions of the heart, which was in opposition to that given by Dr. Hope, and the one usually received, which is the following:—

- 1st motion the auricular systole.
- 2nd — ventricular, with impulse, and no pulse.
- 3rd — ventricular diastole.
- 4th — interval of ventricular repose, towards the termination of which auricular systole takes place.

While the experiments and observations of Dr. Bellingham shewed the following:—

- 1st was the auricular systole.
- 2nd — ventricular diastole and impulse.
- 3rd — ventricular systole.
- 4th — interval of ventricular repose towards the termination — auricular systole.

He found that, in duration of time, the diastole of the ventricles occupies double the time of the systole, and the interval of repose equalled nearly the time taken up in the systole.

With respect to the sounds, he found the

- 1st synchronous with ventricular diastole.
- 2nd — ventricular systole.

Dr. Williams said these experiments had been described long ago. They were formerly supported by Dr. Corrigan, who had publicly abandoned them. They were true as to frogs, but not of warm-blooded animals—they were not true in the human subject, and the analogy which the author implied between the progressive motions of the heart of frogs and man was utterly impossible.

The next paper was entitled, “Ob-

servations on the disease called Cocobæ by the Africans, or Arabian Leprosy, the Ara-apatta of the Caribes of Guiana the Radesyge of Northern Europe; and on the Methods found most effectual in the Treatment," by Dr. John Hancock.

—Dr. Hancock considered that *Lepra Arabum*. Cocobæ of the Africans, Ara-apatta of the Caribes of Guiana, as identical, and to consist in a vitiated state of the blood and serous fluids, with obstruction of the absorbing and secreting vessels, with a peculiar diathesis, forming under the skin tubercles, knobs, and indurations, which characterize the disease. The progress being slow, the humour solidifies almost as fast as it transudes. Dr. Hancock had never known this disease to be communicated by husband to wife, or *vice versa*. This, with many other circumstances, induced him to believe that the disease was not contagious. The disease, in its early stage, is curable, though considered to be incurable. The unhappy subject is regarded with suspicion; and when the disease is fully established, the sufferer is obliged to be sent to some retired part of the colony. Bathing, salines, and anodynes, were recommended. The Indians, especially the aborigines of Guiana, resort to fomentations, baths, and a drink of the bark of a tree called Mouca, with the root of a vine, Paramaroora, a species of *Cissus*, and the bark of Waiacano (*guaiacum*), the infusion of which is fermented with honey. They use, also, the bark of the tree "tamootu," a nondescript.

TRANSPOSITION OF THE VISCERA.

For the following interesting case we are indebted to Dr. Jamieson, of Newtownards.

Mr. Wm. J. Henry, a young gentleman of considerable talent, and a distinguished literary student of the Belfast College, enjoyed *good health* up to Feb. 1836, when symptoms of phthisis

began to be manifested. Shortly after this time, on examining him with the stethoscope, I found the heart to be on the right side of the chest, and on a further examination of him by myself and other medical men, a lateral transposition of the viscera was believed to exist. The malposition of the heart, &c. was unknown to my patient and his family until I observed it. He died on the 29th of March last, *ætat.* 19 years.

As only a few minutes were given me to perform the post-mortem examination, I had not time to look for minute departures from the normal position of parts. The following is what was observed.

Chest.—Right lung two-lobed and notched, and on the heart; left lung three-lobed (both studded with tubercles). Heart of the usual size, and healthy, on the right of the sternum, lying almost transversely, its apex pointed between the fourth and fifth rib, an inch external to the nipple; the pulmonary artery did not pass in front of the aorta, but its right side, sending its left branch through the arch.

Abdomen.—Liver in the left hypochondrium, of the usual size, and healthy; spleen in the right hypochondrium, considerably larger than usual. Large end of the stomach to the right, pyloric orifice to the left. Cæcum attached to the left iliac fossa. The first part of the colon ascended a few inches from the cæcum, then passed through the mesentery, between the small intestines and spine, coming out below the right kidney, where it was thrown into numerous flexures, which were attached to the right iliac fossa. The peritoneum, instead of descending as usual, after investing the stomach, passed at once into the spine; of course, neither the gastro-colic omentum nor the transverse meso-colon existed. A mass of omentum, the size of two oranges, adhered to the right iliac region. Kidneys normal.

D. JAMIESON, M.D.

Newtownards, 22d July, 1837

SUDDEN AND FATAL HÆMOPTYSIS.

It is not often that a hæmorrhage from the lungs is instantaneously fatal. The following is, however, an example.

A gentleman of fortune and title, aged 40 years, had been subject to cough and expectoration for seven or eight years, which seldom confined him to the house, or prevented him from enjoying the sports of the field, to which he was inordinately attached. He was also corpulent, and fond of the pleasures of the table. In the Autumn of 1836 his cough was more troublesome than usual, after an attack of influenza, and he determined to spend a Winter at Nice. He consulted Dr. Johnson, and also Dr. Chambers, that year, but, as he was of a very irritable and impatient temper, a very accurate examination of the chest could not be made. There was no idea, however, entertained by either of the above gentlemen that more than chronic bronchitis existed. He proceeded to Nice, but late in the season, and was unfortunate in the weather on the route. Between Lyons and Nice he caught cold, and began to exhibit streaks of blood in the expectoration, which was of a muco-purulent character. This tinge of the sputum never afterwards ceased. At Nice he was uncomfortable, and he travelled home much too early in the Spring of 1837, arriving in London in the month of March. His appearance was singularly altered. He had lost nearly thirty pounds weight—his pulse was above 100—the left side of the chest, especially the middle and upper portions, sounded very dull, and evinced but little respiration, and that bronchial. He had such a horror of the stethoscope, however, that a good examination of the chest could not be made. Sir H. Hallford and Dr. Johnson had now the care of the patient. The expectoration was decidedly muco-purulent, tinged considerably with blood. Yet he could lie on both sides in bed, had a moderate appetite, and went backwards and forwards to his country-seat, nearly 100 miles from London. With the exception of some increase of emaciation, there was no material change in the symptoms, till the morning of Thurs-

day, the 3d of August, when he suddenly brought up a pint or more of blood. The hæmorrhage almost immediately ceased, but strong acids were given through the day. At 7 o'clock in the evening, Dr. Chambers and Dr. Johnson saw the patient, and continued the treatment. At 8 o'clock a smaller hæmorrhage, and the patient was cupped. Friday morning another hæmorrhage of more than a pint, notwithstanding the acetate of lead and opium. Ruspini's styptic was employed in addition, and there was no more hæmorrhage till Saturday night at 11 o'clock, when the unfortunate patient sprang out of bed, discharged a considerable quantity of blood, fell on the floor, and instantly expired.

Examination by Mr. H. J. JOHNSON, Sunday Evening, 6th August, 1837.

The body was not emaciated to any thing like an extreme degree.

Chest.—The heart was a little, and but a little, larger than natural. Its right side was rather loaded with fat. Its substance was soft, and slightly lacerable.

There were about five drachms of fluid, of a yellow colour, in the pericardium.

The right lung was perfectly healthy, with the exception of a few scattered, crude, and common tubercles. These were mostly of a dark colour.

The left lung was much more diseased. Its upper lobe was universally consolidated, from grey tuberculous matter, except where it was excavated by vomicæ. One large vomica, capable of holding an egg, occupied the internal surface of this lobe, at the root of the lung, and precisely where the great bronchial tube enters it. The bronchus itself was abruptly truncated by ulceration, and its ulcerated ends, as well as its immediate vicinity, were the seat of fungous and semi-cartilaginous thickening. From the appearance of the parts, and from the situation of the vomica, it would appear that some large branches of the pulmonary artery and veins must have opened into it, and both the vomica and bronchus were filled with partially coagulated blood.

The large vomica communicated with several smaller and more recent ones, scattered through the remainder of the lobe, especially its apex.

The lower lobe was the seat of numerous tubercles, some solitary, some aggregated, but none of them yet softened.

This lung was pretty generally adherent to the side of the chest, and the adhesions were particularly strong at the apex.

OBITUARY.

1. DEATH OF MR. LYNN.

Mr. Lynn, who was long surgeon to the Westminster Hospital, and was one of the few remaining samples of the 'old school', died in June, of the present year, in the 84th year of his age.

2. DEATH OF RASORI.

Born in 1766, Rasori died on the 15th of April, 1837, at the age of 71 years.

His life was a chequered one, and he suffered in the political troubles of his injured and unhappy country.

He was born at Parma, where his father was head apothecary to the principal hospital. At the age of eight he entered the university, in which he acquired much general knowledge. At the age of 19 he was made doctor of medicine by the University of Pisa, by which he was sent abroad to study surgery. He departed for Florence, where he became the friend and pupil of Fontani, Nannoni, and Mascagni. In three years he removed to Pavia, where he remained two years, and enjoyed the friendship of Spallanzani, whom he assisted in his experiments.

At this period the Brunonian doctrines made their appearance in Italy. Rasori studied Brown's work with ardour, and translated it into his own language, arguing at the same time against many of the doctrines which it contained. In 1793, Rasori came to England, where he remained for two

years, and on his return settled at Milan.

In 1796, Rasori was appointed professor in the University of Pavia, in the room of Scarpa, who refused to take the oath of allegiance to the government of Bonaparte.

After having been professor for two years, he was appointed secretary to the Minister of the Interior. Not liking, however, this situation, he returned to Pavia in the capacity of professor of clinical medicine, and chief of the medical directory. He was deprived of this office in three months, and replaced by his rival Moscati.

He was now made government superintendent of the great hospital of Milan, but immediately retired with the French army to Gènes, where he remained until its surrender. During the siege a petechial fever raged generally and extensively, and Rasori treated it according to the principles which he had already explained in his clinical lectures at Pavia. He was very successful, and published a history of the disease, in which he gave an account of the doctrine of contra-stimulants, and the employment of large doses of tartar emetic. After the battle of Marengo he returned to Milan.

In 1807, Rasori's reputation having become established, strangers began to resort to him, and he was allowed by the government to form two clinical wards, one for men, and the other for women, each of more than 100 beds, in the great hospital of Milan. It was in these wards that he practically developed his system, and instructed the pupils, who afterwards spread his doctrines so widely.

He was soon appointed first physician of the kingdom. The petechial fever was then raging. Rasori stopped its ravages by isolating the affected.

In 1808, the government made him professor of clinical medicine to the military hospital for the instruction of medical officers for the army. To oppose the representations of the enemies of his doctrine, Rasori published annual reports of the results of his practice.

On the re-occupation of Lombardy by the Austrians, Rasori lost all his appointments, and fell under the sus-

picion of government. On a conspiracy being apprehended, he was seized, imprisoned, and kept four years in confinement. During his imprisonment, although his health suffered considerably from intermittent fever, he displayed his wonted activity of mind; he wrote a review of a work on diseases of the spine, translated a work from the German, and began to prepare a large work on inflammation, which he lived to complete before his death. This work is about to be published, and has excited a good deal of expectation.

After his release, his hospital prac-

tice was as much followed by pupils as before, and his private practice was large. Among others, the late Princess of Wales, when in Italy, summoned him during illness to her assistance.

A colossal statue of him in marble is about to be erected in Milan.

Rasori's doctrines have been too often and too deeply canvassed by us, to require any notice at our hands at present. They will probably sleep with their author.

We regret to announce the death of Dr. D. Uwins.

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10. Letters to the Right Honourable the Lord Provost and Town-Council of Edinburgh. By Dr. KNOX.

11. On the Nature and Treatment of the Diseases of the Heart; with some New Views on the Physiology of the Circulation. By JAMES WARDROP, M.D. Part the First, with Plates. Svo. Churchill, London, July 1837.

12. An Exposition of the Signs and Symptoms of Pregnancy—the Period of Human Gestation—and the Signs of Delivery. By W. F. MONTGOMERY, A.M. M.D. &c. Sherwood, London, 1837.

13. Dental Practice, or Observations, &c. By JOHN GRAY, Surgeon-Dentist. Duodecimo, 1837.

14. Observations on the Topography, Climate, and Prevalent Diseases of the Island of Jersey, the Result of Meteorological Observation, &c. By Geo. S. HOOPER, M.D. Svo. Whittaker, London, July, 1837.

15. Continental and British Medical Review—July, August and September. Conducted by Dr. Bureau de Riofrey.

16. The Cyclopædia of Anatomy and Physiology. Edited by R. B. TODD, M.D. Part XI. Containing Eye—Face—Fascia—Fat—Femoral Artery—Fibrine—Fibro-Cartilage—Fibrous Tissue—Fibular Artery—Fifth Pair of Nerves. Illustrated with numerous Engravings. Price 5s. August, 1837.

17. Plan for Regulating Medico-Parochial Attendance; also Observations on Self-supporting Dispensaries and Union-Infirmaries. By JOHN CHARLTON YEATMAN. Fourth Edition, enlarged. Longman and Co. 1837.

18. Surgical Observations on Tumours, with Cases and Operations. By J. C. WARREN, M.D. Professor of Anatomy and Surgery in Harvard University, Surgeon to the Massachusetts General Hospital. 8vo. pp. 608, with Plates. Boston, 1837.

19. The Physician's Vademecum; or a Manual of the Principles and Practice of Physic, &c. &c. By ROBERT HOOPER, M.D. New Edition, considerably enlarged and improved. By MICHAEL RYAN, M.D. 8vo. 1837.

20. A Manual of Percussion and Auscultation, as employed in the Diagnosis of Diseases of the Chest and Abdomen, 32mo. By Dr. SPILLAN.

21. An Examination of Phrenology; in Two Lectures, delivered to the Students of the Columbian College, &c. By THOMAS SEWALL, M.D. with a Plate. Washington City, 1837.

22. An Experimental Essay on the Relative Physiological and Medicinal Properties of Iodine and its Compounds, being the Harveian Prize Dissertation for 1837. By CHARLES COGSWELL, M.D. A.B. &c. &c. Edinburgh, 1837.

23. Notice of Patents granted to JOSEPH AMESBURY, of Burton Crescent, for certain Apparatus used in the Treatment of Stiffness, Weakness, &c.

24. The Phrenological Journal, No. 53. Sept. 1837, 2s. 6d. Maclachlan and Stewart, 1837.

25. The Dublin Journal of Medical Science, &c. for September, 1837.

26. Advice on the Care of the Teeth. By EDWIN SAUNDERS, Dentist; Fellow of the Medico-Botanical Society, &c. 12th Edition, 1837.

27. Inaugural Dissertation on the Physiology and Pathology of the Brain; being an Attempt to ascertain what portions of that Organ are more immediately connected with Motion, Sensation, Intelligence, &c. By JOHN HUGHES BENNET, &c. Edinb. 1817.

 We may notice this hereafter.

28. A Medico-Topographical, Geological, and Statistical Sketch of Bolton and its Vicinity. By JAS. BLACK, M.D. with a Map.

29. An Address delivered at the Opening of the Medical Institution in Hope-street (Liverpool), on Wednesday, the 31st May, 1837. By JOHN RUTTER, M.D. President. Liverpool, 1837.

30. The Theory of Electric Repulsion examined in a Series of Experiments, &c. By CHARLES HALES. London. 8vo. Stitched. Pp. 22.

For the following Reports we are indebted to the kind politeness of Mr. BLIZARD CURLING, of the London Hospital, a gentleman whose zeal for the advancement of medical science we have had several gratifying opportunities of noticing.

1. Institut Royal de France. Académie Royale des Sciences. Rapport sur le Concours du Grand Prix de Chirurgie. Diffinités du Système Osseux.

2. Rapport sur les Prix de Médecine et de Chirurgie, de l'Année, 1835. Par M. SERRES, &c.

3. Annonce des Prix décernés par l'Académie des Sciences pour l'Année, 1836.

These Reports arrived too late for notice in the present Number. They will be brought before our readers in our next.

32. The Nature and Treatment of Diseases of the Ear. By Dr. WM. KRAMER. Second Edition, translated from the German, by JAS. RISDON BENNET, M.D. 8vo. pp. 306, with plate. Longman & Co. Sept. 1837.

33. A Medico-Legal Treatise on Homicide by external Violence; with an Account of the Circumstances which modify the Medico Legal Characters of Injuries, &c. By ALEX. WATSON, Esq. 8vo. Maclachlan and Co. Sept. 1837.

EXTRA-LIMITES.

THE RAILROAD STEAMER.

By JAMES JOHNSON, M.D.

WERE any of the ancients to rise from their tombs, and to behold a steamship, full of passengers, darting up the Thames, or a train of carriages, with a thousand people, flying along a railroad, at the rate of 30 miles an hour, they would be very apt to doubt the fact of their revisit to the same planet they had left—since a thousand years in the grave may probably seem no longer than a short siesta after dinner. Their surprise would not be much lessened by the sight of a column of brilliant flame springing up from the middle of a street, or issuing from ten thousand metallic tubes, and turning the darkness of night into the glare of day! If, while gazing at these phenomena, they saw a man or even a monkey, descend from the clouds suspended as the pendulum of a huge umbrella, they would no longer doubt that they had got into “another if not a better world” than that of their birth and death!

But to return to the RAILROAD STEAMER. Without rudder or rein—without tug or tow-rope—without chart or compass—without impulse from MAN, or traction from BEAST—this maximum of power in minimum of space—this magic AUTOMATON, darts forward, on iron pinions, like an arrow from a bow, along its destined course. Devised by science, but devoted to industry—harmless as the dove, if unopposed; but fatal as the thunderbolt, if obstructed in its career—this astonishing offspring of human invention—this giant in strength, though a dwarf in stature, drags along, and apparently without effort, whole cargoes of commerce—merchants and their merchandize, artizans and their arts, travellers and their traffic, tourists and their tours (some of them *heavy* enough)—in short, every thing that can be chained to the tail of this Herculean velocipede!

The steam-carriage nearly annihilates distance between the inhabitants of a state, and thereby converts, as it were, a whole country into a city, securing all the good effects of combination and concentration, without the detrimental consequences of a crowded population. By the railroad, Liverpool, Manchester, Birmingham, and the Metropolis, are constituted *contiguous* cities, while wide and fertile tracts of country intervene! Thus STEAM multiplies the products of human labour, by increasing their sale and diminishing their price. It will enable us to convert millions of acres from pasturage into corn-fields, and consequently the provender of horses into food for man.

The whole transit of a RAILROAD STEAMER is a series of miracles, which, in

former days, would have been attributed to angels or demons. At starting, the mighty automaton suddenly suppresses his torrent of hissing steam, and belches forth a deep and hollow cough, which is reiterated at shorter and shorter periods, like a huge animal panting for breath, as the engine, with its train, labours up the ascent from Euston-square. These belchings more nearly resemble the pantings of a lion or tiger than any other sound that I know of. With the slow motion, on any considerable ascent, the breathing of the animated machine appears to become more laborious, and the explosions more distinct, till at length the animal seems exhausted, and groans, as it were, under the tremendous effort. But the engine, having mastered the difficulty, acquires velocity before it plunges into the dark abyss of the tunnel under Primrose-hill. There the peal of thunder—the sudden immersion in cimmerian darkness—the clash of reverberated sounds in confined space—the atmospheric chill that rushes over the frame—all combine to induce a momentary shudder at the thought of some possible collision or catastrophe in this subterranean transit, which is increased rather than diminished by the gleams of dubious light that occasionally break in from above, or the sparks of fire that issue every instant from the chimney, rendering “darkness visible.” On emerging from the gloomy and gelid cavern, every thing appears of dazzling brightness, and we breathe with delight the pure atmosphere of Heaven.

The moment the highest point of elevation on any part of the road is gained, and a descent commences, the engine, with its long train, starts off with augmenting velocity, dashing along, like lightning, and with an uniform growl or roar, like a continuous discharge of distant artillery or thunder. The scene is now grand—I had almost said terrific. Although it may be a complete calm, the wind appears like a hurricane; and, while the train is flying along the raised embankments, as near Watford, it is impossible not to feel some sense of danger, or an apprehension that some unexpected impediment may hurl the whole cavalcade into the yawning gulf below!

The meetings of the trains flying in opposite directions are scarcely less agitating to the nerves than the transits through the tunnels. The velocity of their course—the propinquity, or apparent identity of the iron trajets along which these hissing meteors move, raise the involuntary but frightful thought of a possible collision, with all its horrible consequences! The period of suspense, however, is but momentary. An electrifying concussion, as it were, of sense, sight, and sound takes place, and, in a few seconds, the object of terror is out of view behind.

But such Herculean labour cannot be carried on in so small a compass, without great expenditure. The AUTOMATON thirsts—he knows the places of refreshment—utters a loud and piercing whistle or note of preparation—slackens his pace—halts at the fountain, and ingurgitates a deluge of water

to quench his burning drought. In five minutes he is able to renew his gigantic task!

The steam-shriek is a new phenomenon on the railroad, and a very startling one it is. By opening a small valve in the boiler, a volume of steam is driven, with tremendous force and velocity, through a narrow aperture, in imitation of a throat, causing a shrill shriek, unlike the voice of man, or of any known animal, but so loud as to be heard two miles off. It is a most unearthly yell, or scream, or whistle, which was compared by a distinguished poet, who sat beside me,* to the cry of some monstrous animal while being gored to death. It forms an excellent alarm, to clear the road for the train, and apprise those at the stations, that the engine approaches.

The rail-road travelling possesses many peculiarities, as well as advantages, over the common modes of conveyance. The velocity with which the train moves through the air is very refreshing, even in the hottest weather, where the run is for some miles. The vibratory, or rather oscillatory motion communicated to the human frame, is very different from the swinging and jolting motions of the stage coach, and is productive of more salutary effects. It equalizes the circulation, promotes digestion, tranquillizes the nerves (after the open country is gained), and often causes sound sleep during the succeeding night, the exercise of this kind of travelling being unaccompanied by that lassitude, aching, and fatigue which, in weakly constitutions, prevents the nightly repose. The railroad bids fair to be a powerful remedial agent in many ailments to which the metropolitan and civic inhabitants are subject.

To those who are curious, and not very timid, the open carriages are far preferable to the closed ones, especially in fine weather. In bad weather, and particularly at first, invalids may travel with more advantage under cover, I have no doubt that to thousands and tens of thousands of valetudinarians in this overgrown Babylon, the run to Boxmoor, or Tring and back, twice or thrice a week, will prove a means of preserving health and prolonging life, more powerful than all the drugs in Apothecaries' Hall.

In fine, a man may travel from the pole to the equator—

“A Gadibus usque ad Gangem”—

without seeing any thing half so astonishing as the wonders of the railroad. The pangs of Etna, and the convulsions of the elements excite feelings of horror and terror, without any thing of pride. The Magic—the miracles of the railroad engender an exulting consciousness of superiority in the genius of man, more intense and conclusive than any effort of poet, painter, or philosopher.

The railroad journey, however, is not without its inconveniences, many of

* Campbell.

which may be prevented by a little ingenuity. The greatest is the discharge of cinders, some of them ignited, from the chimney, which are not only disagreeable but occasionally dangerous to the eyes of those in the open carriages. This might be prevented by an awning—a protection which is adopted on some railroads, and one that must ultimately be adopted on all. It is a protection from the elements of fire and water which every company is bound to afford to the passengers, and is attended with trifling expense. Till then, glasses or a veil are necessary guards for the eyes.

The transits of the tunnels, in hot weather, causing a sudden vicissitude of temperature, to the extent of 20 degrees of the thermometer, or thereabouts require some precaution on the part of sensitive invalids. A shawl or large handkerchief, thrown over the head, is a sufficient protection, and those who do not take this measure, should keep their eyes shut, during the passage, since sparks and cinders are, unavoidably, thrown in closer showers over the passengers here than in the open space.

To speculate on the normal, physical, political, and economical effects and consequences of railroads and steam navigation, when carried to their full extent, is beyond my province—perhaps beyond the bounds of human foresight. If the semi-civilized peasants of the remotest isles of the Hebrides, of Orkney, and of Shetland, can even now, transmit, in a few hours, the produce of their huts, their mountains, their moors, and their farm-yards, to the markets of Glasgow and Edinburgh, so as, in three or four days, to pay the annual rents of their tenements and wildernesses, what may we not expect from the extension and perfection of this facility of intercommunication? In days of yore, the imponderable products of the intellect travelled as slowly as the material merchandize of mankind. They will now be diffused, from the centre to the periphery—from the remotest outlines to the foci of society, with a rapidity little less than that of *thought* itself!! The ultimate *consequences* cannot be appreciated at present; but we may safely conclude that the benevolent Author of our existence did not endow the mind of MAN with such extraordinary powers of invention, without the DESIGN of final advantage to his physical wants, his social relations, and his spiritual nature.

I N D E X.

A	
Abdominal parietes, delivery of a fœtus through the	493
Abdominal tumor, case of	533
Abscess, small, opening a	280
Abscess, large, opening a	281
Abscess, deep, opening a	282
Abuses of vital statistics	185
Acanthus mollis	148
Aconite	149
Acoustic nerve, deafness from compression of	134
Acoustic nerve, deafness from palsy of	134
Action of certain medicines on the heart	520
Acupuncture, cure of hernia by	551
Addison on diagnosis of pneumonia	37
Adhesion of the pericardium, case of	244
Agglutination of the os uteri, difficult parturition from	235
Alibert, keloides of	326
Alvine concretions, Dr. Monro on	138
Alvine concretions, chemical analysis of	141
Alvine concretions, causes of	142
Alvine concretions, treatment of	144
America, medicine in	482
America and Ireland, fever in	553
American Cyclopædia of Practical Medicine	129
Amphibia, nervous system of the	108
Amputation	459
Amputation, unnecessary, caution against	459
Amputation during suppuration	460
Amputation, preparations for	461
Amputation, apparatus for	461
Amputation, compression of artery for	462
Amputation at the hip-joint	549, 550
Amputation, cases of	550
Amputation at the knee-joint	551
Amputation in the knee-joint	551
Amputations of Dupuytren	463
Anatomie du système dentaire	155
Anatomie descriptive. By Cruveilhier	155
Anatomical plates, Quain's	156
Anatomical plates, Bourguery's	156
Anatomy of the nervous system, Mr. Anderson on the	83
Anatomy of the lymphatic system	298
Anatomy and Physiology, Cyclopædia of	154, 464
Anatomy of the skin	308, 320
Anderson, on the anatomy of the nervous system	83
Aneurysm cured by operation	482
Annau on dislocations	487
Annesley, Mr., reply of, to Mr. Twining	289
Anomalies de l'organisation	83
Anus, imperforate, case of	230
Apothecary in Germany	474
Appendix cæci vermiformis, inflammation of the	23
Aqueous humor, posterior chamber of the	464
Arsenious acid, poisoning by	263
Artillerymen, wounds incidental to	198
Ascites, cure of	535
Assafoetida, action of, on the heart	526
Association, British, proceedings of	569
Asthma treated endermically	525
Atrophy of bone	6
Atrophy of old age	10
Atrophy of the heart's valves	27
B.	
Baden Baden	423
Bad Gastein	427
Basis cranii, tumors at the	265
Basis of the brain, tumors at the	265
Baudelocque on diseases of children	530
Bell's history of British quadrupeds	468
Bellis perennis	147
Bibliographical record	587
Bigger, Dr. on transplanting the cornea	477
Birmingham, prevalence of tape-worm in	285
Black expectoration, Dr. Thomson on	41
Bladder, injury to the neck of the	256
Bladder, sounding the	259
Blennogenous apparatus	316
Blood-letting	418
Bone, atrophy of	6
Bones, affections of the	3
Botany, Mr. Lindley on	442
Bouillaud on fever	209
Bouillaud on typhoid fever	450
Brain, Mayo on the state of the, in sleep	183
Brain, case of softening of the	243
Brain, tumors at the basis of the	265
Brain, lesions of the	271
Bracts	447
Breschet sur la Peau	155
Breschet's Système Lymphatique	297
British flora medica	145
British birds, history of, by Yarrell	468
British quadrupeds, history of	468
British Association, proceedings of	569
Brodie, Sir B., on nervous affections	68

Bromide of potassium in diseases of the spleen	370	D.	
Bruit du diable	186	Deaf and Dumb, language of gesture in the	245
Burne on inflammation, &c. of the cæcum	19	Deafness, remedies for	136
C.		Deafness, causes of	130
Cæcum, Dr. Burne on Inflammation, &c. of the	19	Deafness, from affections of the external ear	130
Calamine, constituents of	187	Deafness and dumbness	136
Calculi in the kidney	263	Delirium, treatment of	561
Calculus, size of the	261	Denny on puerperal convulsions	485
Calyx	448	Depletion for puerperal convulsions	485
Camphor, action of, on the heart	526	Dermoid tumors	325
Cancer of the uterus treated endermically	524	Desgenettes, bibliographical sketch of	204
Cancrum oris of children	527	Devergie on syphilis	379
Carcinomatous growth from the cornea	276	Diabetes mellitus, Mr. M'Gregor on	188
Carlsbad	428	Diabetes mellitus, Mr. Snowden on	188
Carotid, right, aneurysm of the root of the	482	Diabetes, Mr. Leach on lytta in	188
Carpus, dislocation of the, backwards	248	Diaphragmatic hernia, case of	30
Cellular membrane, tumors of the	327	Diapnogenous apparatus	313
Cephalæa, remarkable case of	200	Dictionary of Practical Medicine, by Copland	129
Cerebral mass, weight of, compared with the intelligence	507	Difficult parturition, case of	234
Chancre	397	Difficult parturition, from agglutination of the os uteri	235
Chancre, use of caustic for	399	Digitalis, action of, on the heart	527
Children, cancrum oris of	527	Diseases, general registration of	291
Children, diseases of	530	Diseases of Jersey	377
Chlorine, curative properties of	240	Diseases of the Sandwich Isles	493
Chromatogenous apparatus	317	Dislocation of the carpus backwards	248
Chronic pleuritis, effects of	31	Dislocation of the shoulders, reduction of	545
Circulatory organs, changes in the	97	Dislocation of both thighs, simultaneous	546
Clavicle, osteo-sarcoma of the	341	Dissection wounds, Mr. Stafford on	351
Clinical facts	280	Dothinenteritis	553
Clinique Medicale. Par M. Bouillaud	450	Dupuytren, bibliographical sketch of	201
Club-foot, cure of, by division of the tendon-Achillis	499, 546	Dupuytren, his amputations	463
Colchicum, Dr. Lewins on	174	E.	
Cold, Sir H. Halford on effects of	172	Economy of health, Dr. J. Johnson on	79
Colles on the venereal disease	379	Egra	434
Congenital enlargement of the tongue	491	Elements of medicine. By Dr. Williams	345
Contagion of glanders	500	Eiloides	327
Copland's Dictionary of Practical Medicine	129	Emphysema of the body, cough ending in	188
Cornea, carcinomatous growth from	276	Empyema cured by paracentesis	292
Cornea, ossification of the	277	Ems	440
Cornea, vascular prominence of the	277	Encysted muscular melanosis	329
Cornea, transplanting the, for blindness	447	Endermic and inoculative mode of treatment	524
Cough ending in emphysema of the body	188	Epidermoid tumors	325
Craigie on the practice of physic	408	Epigastric region, violent pulsations in the	480
Creosote, Sir F. Smith on	177	Erysipelas, M. Bouillaud on	211
Croup, cases of	225	Erysipelas, poison of	364
Cumin, Dr., death of	288	Erysipelas, infectiousness of	365
Curative properties of chlorine	240	Erysipelas, contagiousness of	367
Cutaneous apparatus of inhalation	314	Esculent mushroom, Edwards on poisoning with	498
Cuvier sur l'Anatomie comparée	155	Etiology	404
Cyclopædia of Practical Surgery	129, 459	Eustachian tube, deafness from diseases of	132
Cyclopædia of Anatomy & Physiology	154, 464		

- Eyeball, malignant affection of the . . . 278
 Existence of three mammae in a man . . . 505
 Existence of four mammae in a woman . . . 505
 Exostosis, maxillary, of the spongy texture . . . 337
 F.
 Factory morals, reformation of . . . 284
 Femoral aneurysm . . . 482
 Fever, M. Bouillaud on . . . 209
 Fever, puerperal, cases illustrative of . . . 230
 Fever in America and Ireland . . . 553
 Fistula in perinæo . . . 258
 Flora medica, British . . . 145
 Fœtus, delivery of a, through the abdominal parietes . . . 492
 Fractured bones, reparation of . . . 265
 Frænum, perforating ulcer of the . . . 401
 Franzenbad, mud-baths of . . . 434
 Fright, insanity cured by . . . 540
 Fumaria officinalis . . . 147
 Fungus hæmatodes, case of . . . 331
 G.
 Galvanism for tic douloureux . . . 190
 Gangrene . . . 412
 Gangrene of the leg, spontaneous . . . 552
 Gangrene of the lungs . . . 554
 Gangrenous stomatitis . . . 529
 Gastralgia, Dr. Lombard on . . . 532
 Gastro-enterite, Louis on . . . 450
 Gastro-enterite and diarrhœa, treatment of . . . 560
 Gastro-enteritis, case of . . . 273
 Gastro-malacia . . . 213
 Geary on typhoid fever . . . 557
 Geneva, value of life in . . . 184
 Gerhard, Dr. on typhus fever . . . 553
 Germany, Dr. Granville on the spas of . . . 422
 Germany, state of pharmacy in . . . 473
 Glanders, supposed, in the human subject . . . 246
 Glanders in the human subject . . . 359
 Glanders, contagion of . . . 500
 Glanders in man . . . 518
 Glanders, chronic form of . . . 521
 Glanders, gangrenous form of . . . 523
 Glasgow Infirmary, expense of patients in . . . 282
 Grand climacteric . . . 79
 Granville on the spas of Germany . . . 422
 Graves on the pathology of phlegmasia dolens . . . 501
 Green on diseases of the skin . . . 156
 Guy's Hospital reports . . . 1, 249
 H.
 Hæmoptysis, sudden and fatal . . . 585
 Hæmorrhagic diathesis, cases of . . . 540
 Hæmorrhage, spontaneous, from the legs . . . 541
 Halford, Sir H., on the effects of cold . . . 172
 Hall on the practice of medicine . . . 403
 Hamerton's case of tetanus . . . 48
 Hart's case of hernia pericardii . . . 476
 Hastings, Dr., address to the Worcestershire Natural History Society . . . 158
 Headland's oration . . . 150
 Health, Dr. J. Johnson on economy of . . . 79
 Heart's valves, atrophy of the . . . 27
 Heart, Lees on wounds of the . . . 193
 Heart, safety-valve of the . . . 265
 Heart, Wardrop on diseases of the . . . 469
 Heart, action of certain medicines on the . . . 526
 Hermaphroditism . . . 114
 Hermaphroditism, complex . . . 127
 Hernia, stricture in . . . 281
 Hernia pericardii, case of . . . 476
 Hernia, cure of, by acupuncture . . . 551
 Hip-joint, amputation at the . . . 549
 History of British quadrupeds, by Bell . . . 468
 Hooper on the climate, &c. of Jersey . . . 377
 Hospital medicine and surgery . . . 241
 Hospitals, statistical report of . . . 539
 Hudson on typhus fever . . . 559
 Hudson on the cause of tympanitic sound on percussion over an inflamed lung . . . 561
 Human pathology, outlines of . . . 1
 Human subject, supposed glanders in . . . 246
 Human subject, glanders in the . . . 359
 Hunter, John, works of . . . 153, 379
 Hydrocele treated with iodine . . . 197
 Hydrocephalus acutus, remarks on . . . 219
 Hyperémie cadaverique . . . 348
 Hypertrophy of the mammary gland . . . 179
 Hysteria, pathology of . . . 69
 Hysteria, treatment of . . . 72
 I.
 Idiopathic tetanus and trismus . . . 227
 Imperforate anus . . . 230
 Increase of suicides in Paris . . . 211
 India, medicine in . . . 196
 Indolent pneumonia, tartar-emetic in . . . 561
 Inflammation of the spinal marrow . . . 206
 Inflammation, Dr. Yellowly on . . . 345
 Inflammation, causes of . . . 409
 Inflammation, signs of . . . 410
 Inflammation, nature of . . . 414
 Inflammation, modifications of . . . 415
 Inflammation, treatment of . . . 417
 Inhalation, cutaneous apparatus of . . . 314
 Insane, treatment of the . . . 238
 Insanity, causes of . . . 533
 Insanity among semstresses, frequency of . . . 533
 Insanity, cure of, by fright . . . 540
 Intermittent fever and neuralgia . . . 209
 Intermittent fever treated endermically . . . 524
 Internal iliac, successful ligature of the . . . 490
 Intestines, lizards vomited from the . . . 541
 Iodine, treatment of hydrocele with . . . 197
 Irish medical charities bill . . . 285
 Irritable ophthalmia . . . 276
 Ischiatic notches, dislocation into the . . . 453

- J.
 Jeaffreson's Mr., case of successful removal of ovarian tumor . . . 47
 Jersey, climate and diseases of . . . 377
 Johnson, Dr. J., on economy of health . . . 79
 Johnson's Dr. J., case of periodical monomania . . . 161
 Johnson, Dr. J., on the railroad steamer . . . 589
- K.
 Keloides . . . 326
 Key, Mr. Aston, on lithotrixy . . . 250
 Kidney, calculi in the . . . 263
 Kidney with two ureters, case of . . . 503
 Kissengen . . . 437
- L.
 Lallemand on spermatorrhea . . . 239
 Language of Gesture in the deaf and dumb . . . 245
 Leach on lytta in diabetes . . . 188
 Lead-colic, successful treatment of . . . 284
 Lees on wounds of the heart . . . 193
 Leg, spontaneous gangrene of the . . . 552
 Legs, tubercular syçosis of the . . . 245
 Lendrick on the nitro-muriatic acid bath . . . 179
 Lepoides . . . 325
 Lewins on colchicum . . . 174
 Lesions of the spinal chord . . . 270
 Lesions of the brain . . . 271
 Liebenstein . . . 437
 Life, value of, in Geneva . . . 184
 Lindley on botany . . . 442
 List of original papers . . . 293
 Liston on tumors of the mouth and jaws . . . 10
 Lithotomy . . . 252
 Lithotomy, dangers of . . . 254
 Lithotrixy, Mr. Aston Key on . . . 250
 Little on pulmonary consumption . . . 151
 Lizards vomited from the intestines . . . 541
 Lobelia inflata, varieties of the . . . 192
 Lombard, Dr., on gastralgia . . . 532
 London Missionary Society . . . 290
 Loss of memory . . . 372
 Louis on gastro-enterite . . . 450
 Lunatic hospitals, report on . . . 535
 Lunatics, table of ages of . . . 537
 Lunatics, mortality of . . . 537
 Lunatics, causes of death of . . . 539
 Lymphatic system, anatomy of the . . . 298
 Lynn, Mr., death of . . . 586
- M.
 M'Gregor on diabetes mellitus . . . 189
 Malcolmson on solitary confinement . . . 170
 Malignant disease of the stomach . . . 176
 Mammæ, existence of three, in a man . . . 505
 Mammary gland, Dr. Fingerhutt on hypertrophy of . . . 179
 Marienbad . . . 432
 Maxillary exostosis of the spongy texture . . . 337
- Mayo's Outlines of Human Pathology . . . 1
 Mayo on the philosophy of living . . . 152
 Measles, Dr. Williams on the poison of . . . 361
 Medical charities bill, Irish . . . 285
 Medical education, Napoleon on . . . 496
 Medicine in India . . . 196
 Medicine, elements of, by Dr. Williams . . . 345
 Medicine in America . . . 482
 Medico-chirurgical transactions . . . 1
 Medico-chirurgical transactions . . . 345
 Melanotic growth from the semilunar membrane . . . 277
 Memory, loss of . . . 372
 Mercury in the venereal disease . . . 379
 Modus agendi of poisons . . . 49
 Monro on alvine concretions . . . 138
 Morbid poisons, Dr. Williams on . . . 49
 Morbid poisons, effects of . . . 351
 Morgue, statistical report from the . . . 191
 Mouth and jaws, tumors of the . . . 10
 Mower, Mr., death of . . . 287
 Mucous matter, source of the . . . 316
 Murray's Northern Flora . . . 190
 Muscular melanosis, encysted . . . 329
 Muscular tumors . . . 328
- N.
 Napoleon on medical education . . . 496
 National vaccine establishment, report of the . . . 497
 Navan fever hospital . . . 559
 Necessity of scientific associations . . . 158
 Nervous affections, Sir B. Brodie on . . . 68
 Nitrate of silver in large doses . . . 172
 Nitrate of silver for gonorrhœa of women . . . 182
 Nitro-muriatic acid bath, Dr. Lendrick on the use of the . . . 179
 Northern Flora. By Dr. Murray . . . 190
 Nosogeny . . . 405
 Nosography . . . 406
 Nosology . . . 405
- O.
 Obituary . . . 287, 590
 Operation, cure of aneurysm by . . . 482
 Ophthalmia, irritable . . . 276
 Opium, use of, for ulcers . . . 467
 Organic anomalies, cases of . . . 502
 Organization, anomalies de l' . . . 83
 Origin of the motor portion of the fifth nerve . . . 465
 Original papers, list of . . . 293
 Osseous tumors . . . 336
 Ossification of the cornea . . . 277
 Osteo-sarcoma . . . 338
 Osteo-sarcoma, origin of . . . 340
 Osteo-sarcoma of the clavicle . . . 341
 Ovarian tumor, successful removal of . . . 47
- P.
 Paracentesis, cure of empyema by . . . 292
 Paralysis, cases of . . . 270
 Paris, increase of suicides in . . . 211
 Parturition, difficult, case of . . . 234

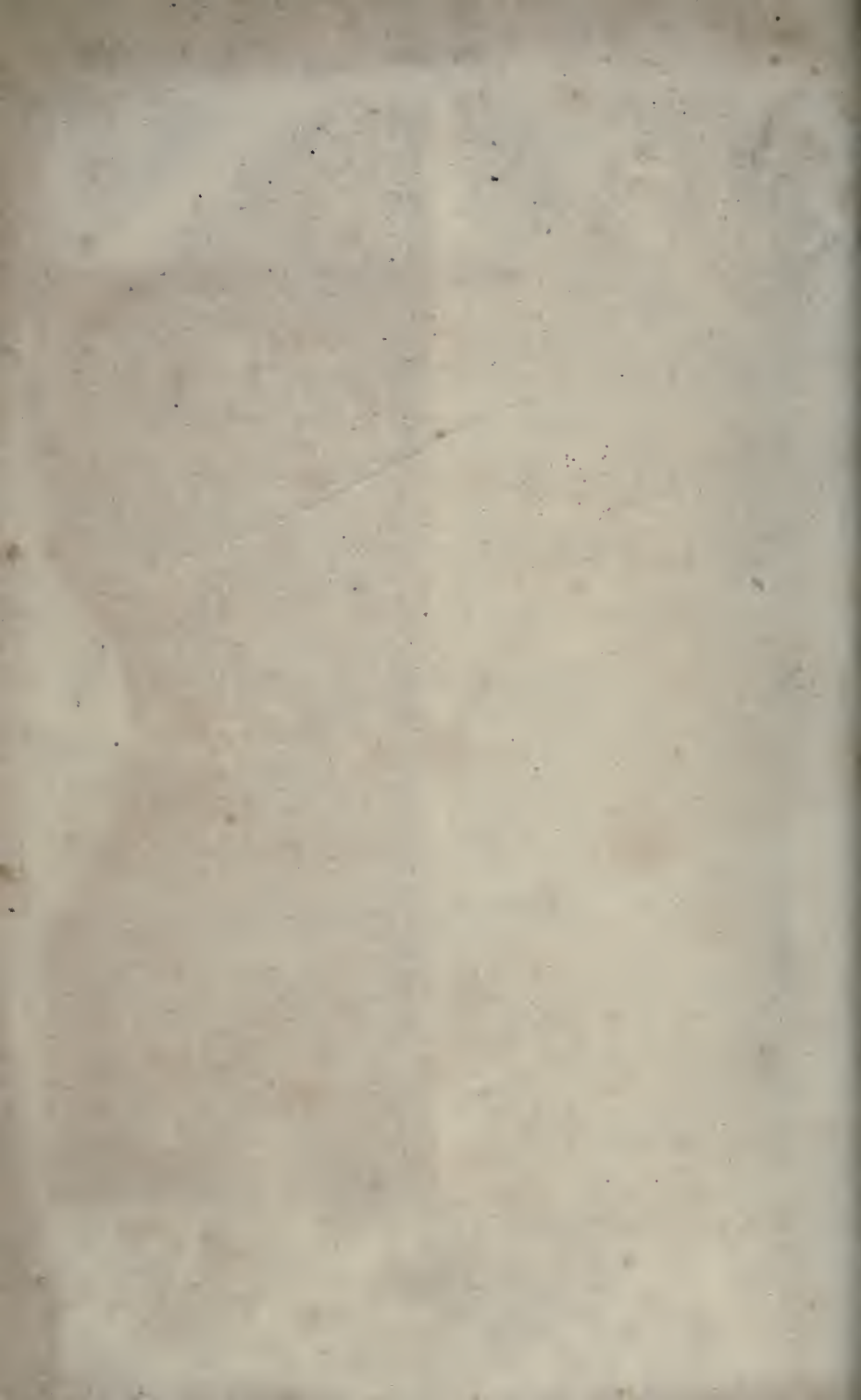
Pathology of pulmonary tubercles	32	Rasori, death of	596
Pathology of hysteria	69	Raspail on vegetable physiology	442
Pathology	407	Recent pathological transactions	1
Pathology of the skin	321	Recurrent nerve, why recurrent	252
Peau, structure de la. Par M. Breschet	297	Reformation of factory morals	254
Pericardium, adhesion of the	244	Registration of diseases	291
Perineo, fistula in	258	Remarks on hydrocephalus acutus	219
Periodical monomania, case of, by J. Johnson	160	Removal of the superior maxillary	18
Periosteal tumors	335	Reparation after simple fracture	3
Peritonitis	257	Reparation of fractured bones	265
Petreguin, Dr., on organic anomalies	502	Report of the natural vaccine establishment	497
Pharmacy, state of, in Germany	473	Report on lunatic hospitals	536
Philosophique anatomique	83	Report of patients in St. George's Hospital	562
Philosophy of living, Dr. Ticknor on	152	Rete mirabile in the sloth	463
Philosophy of living, Mr. Mayo on	152	Retroversio uteri	173
Phlegmasia dolens, pathology of	500	Rheumatism treated endermically	525
Phlegmasia dolens, treatment of	501	S.	
Phloridzine, preparation of	495	St. George's Hospital, report from	562
Phrenology, Dr. Sewall on	159	Saint Hilaire sur la philosophie anatomique	83
Physiologie vegetale. Par M. Raspail	442	Sandwich isles, diseases of the	493
Pied-equin, case of	546	Sandwich isles, climate of the	494
Plethora, deafness from	135	Sandwich isles, venereal disease in the	494
Pleurodinia, treatment of	285	Sandwich isles, population of the	495
Plumbe on diseases of the skin	156	Scarlatina, poison of	59
Pneumonia, Addison on diagnosis of	37	Scarlatina, pathology of	60
Poison of scarlatina	59	Scarlatina, gravior	61
Poison of measles	361	Scarlatina, mitior	66
Poison of erysipelas	364	Scarlatina, treatment of	63
Poisoning by arsenious acid	263	Scars in the neck, how to prevent	280
Polygala senega, action of, on the heart	527	Schlangenbad	439
Polypus nasi, gelatinous, spontaneous cure of a	500	Schwalbach	440
Population of the Sandwich Isles	495	Scientific associations, necessity of	158
Potassium, bromide of, in diseases of the spleen	370	Sclerotics, bulging of the	278
Practical medicine, American cyclopædia of	129	Scirrhus muscular tumor	329
Practical surgery, cyclopædia of	129	Section of the sterno-mastoid muscle	548
Practice of medicine, Dr. Hall on the	403	Semilunar membrane, melanotic growth from	277
Practice of physic, Dr. Craigie on the	403	Senile hydro-nephrosis	503
Preparation of phloridzine	495	Seven half-crowns swallowed	187
Progress of syphilis	393	Sewall on phrenology	159
Provincial Med. and Surg. Association, transactions of	345	Shoulder, reduction of dislocation of the	545
Psychological physiology	507	Simultaneous dislocation of both thighs	546
Puerperal fever, cases illustrative of	230	Skey on ulcers	466
Puerperal convulsions, Dr. Denny on	485	Skin, Mr. Plumbe on diseases of the	156
Puerperal convulsions, depletion for	485	Skin, Dr. Green on diseases of the	156
Puerperal convulsions, case of	486	Skin, anatomy of the	308, 320
Pullna	436	Skin, pathology of the	321
Pulmonary tubercles, pathology of	32	Sloth, rete mirabile in the	463
Pulmonary consumption, Mr. Little on	151	Smith, Sir F. on creosote	177
Pulsations, violent, in the epigastric region	480	Snowden on diabetes mellitus	188
Purgatives, treatment of typhoid fever by	510	Softening of the brain, case of	243
R.		Solitary confinement, Mr. Malcomson on	170
Railroad steamer, by Dr. J. Johnson	589	Spas of Germany, Dr. Granville on	422
Ramollissement of the spinal marrow	283	Spasmodic affection of the thumb in writing, &c.	296
		Spermatorrhea, Lallemand on	239

- Spina bifida, case of 228
 Spinal marrow, inflammation of 206
 Spinal marrow, ramollissement of the 283
 Spinal chord, lesions of the 270
 Spleen, bromide of potassium in diseases of the 370
 Spontaneous gangrene of the leg 552
 Stafford on dissection wounds 351
 Stamens, transformation of 449
 Statistical report from the Morgue 191
 Statistical report of hospitals 539
 Sterno-mastoid muscle, section of the 543
 Stomach, malignant disease of the 176
 Stream of cold water in wounds 542
 Stricture in hernia 282
 Structure de la peau. Par M. Breschet 297
 Substitute for liquor opii sedativus 498
 Successful ligature of internal iliac 490
 Sudden and fatal hæmoptysis 585
 Sudoriferous canals 313
 Supposed new views of dislocations 487
 Syphilis, M. Devergie on 379
 Syphilis, natural history of 390
 Syphilis, progress of 393
 Système Lymphatique. Par M. Breschet 297
 T.
 Tape worm in Birmingham, prevalence of 285
 Tape-worm, case of 567
 Tendo-achillis, division of the, for club-foot 546
 Tendons, tumors of the 332
 Testicles, persistence of the, within the abdomen 504
 Tetanus, successful treatment of 48
 Therapeutics 407
 Thomson on black expectoration 41
 Thoracic inflammation masked 181
 Thoracic viscera, lateral transposition of the 506
 Thorax, vicarious menstruation from the skin of the 497
 Thumb, spasmodic affection of, in writing, &c. 226
 Tic douloureux, relieved by galvanism 190
 Ticknor on the philosophy of living 152
 Toeplitz 436
 Tongue, treatment of a wound of the 199
 Tongue, congenital enlargement of the 491
 Transplanting the cornea for blindness 477
 Transposition of the viscera 584
 Transactions of the Provincial Med. and Surg. Association 1
 Transatlantic snuff-chewing 196
 Treatment of the insane 238
 Tubercular syçosis of the legs 245
 Tumors at the basis of the brain 265
 Tumors at the basis cranii 265
 Tumors, Dr. Warren on 322
 Tumors, examination of 324
 Tumors of the cellular membrane 327
 Tumors of the tendons 332
 Tympanitic sound, cause of, on percussion over an inflamed lung 561
 Tympanum, diseases of the membrane of the 131
 Tympanum, inflammation of the cavity of 133
 Typhoid poison 50
 Typhoid fever, use of purgatives in 510
 Typhoid fever, depletion in 513
 Typhoid fever, contagion of 555
 Typhoid fever, pathological anatomy of 556
 Typhoid fever, Dr. Geary on 557
 Typhoid fever, chloride of soda in 561
 Typhus, treatment of 55
 Typhus fever 209
 Typhus abdominalis, use of chlorine in 240
 Typhus fever, M. Bouillaud on 450
 Typhus fever, M. Louis on 450
 Typhus fever, treatment of 454
 Typhus fever, Dr. Gerhard on 553
 Typhus fever, treatment of 559
 U.
 Ulcers, Mr. Skey on 466
 Ulcers, use of opium for 467
 Urachus, persistence of the cavity of the 504
 Urinary bladder, case of worms in the 495
 Uterus, cancer of the, treated endermically 524
 V.
 Value of life in Geneva 184
 Vance, Mr. death of 288
 Varicose aneurysm, case of 24
 Varieties of the lobelia inflata 192
 Vascular prominence of the cornea 277
 Venereal disease, use of mercury in 379
 Venereal disease, Dr. Colles on the 379
 Vicarious menstruation from the skin of thorax 497
 Viscera, transposition of the 584
 Vital statistics, abuses of 185
 W.
 Wardrop on diseases of the heart 469
 Warren on Tumors 322
 Weisbaden 438
 Wildbad 424
 Williams on morbid poisons 49
 Williams on the elements of medicine 345
 Williams on the poison of measles 361
 Worcester Infirmary, report from 278
 Worcestershire Natural History Society, address to, by Dr. Hastings 158
 Works of John Hunter 379
 Works of John Hunter 153
 Worms in the urinary bladder 495
 Wounds, stream of cold water in 542
 Wry neck, case of 548
 Y.
 Yarrell's history of British birds 468
 Yelloly on inflammation 345









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